

Curriculum Vitae

Prof. Antonino Salibra

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- *Academic Positions:*

1. Full Professor of Computer Science (09/2002–10/2020, Università Ca' Foscari Venezia);
2. Associate Professor of Computer Science (11/1993–08/2002, Università Ca' Foscari Venezia;
11/1992–10/1993, Università di Bari);
3. Research Associate (10/1984–10/1992, Università di Pisa);

- *Main Responsibility Positions:*

1. Head of PhD studies in Computer Science (06/2009 – 12/2012)
2. Member of the Academic Senate (11/2003–10/2006).

- *Highlight 2013:*

1. A scientific meeting in honor of Antonino Salibra, Paris, July 1-2 , 2013.

Invited speakers:

- Pierre-Louis Curien (CNRS and Paris 7)
- Fer-Jan de Vries (University of Leicester)
- Mariangiola Dezani (Università di Torino)
- Mai Gehrke (CNRS and Paris 7)
- Stefano Guerrini (Paris 13)
- Martin Hyland (University of Cambridge)
- Benedetto Intrigila (Università Roma 2)
- Jean-Louis Krivine (Paris 7)
- Antonio Ledda (Università di Cagliari)
- Jean-Jacques Levy (INRIA)
- Michele Pagani (Paris 13)
- Francesco Paoli (Università di Cagliari)
- Pawel Urzyczyn (University of Warsaw).

- *2011/19:*

1. Invited Professor, Laboratoire IRIF, Université Paris-Diderot, 2019
2. Invited Speaker, Non-commutative structures 2018, A workshop in honor of Jonathan Leech. Portoroz, Slovenia, May 23rd-27th, 2018
3. Speaker, AsubL take 6 (Workshop on Algebra and substructural Logics) 2018, Cagliari, June 11th-13th 2018
4. PhD course on “Elliptic Curves, Number Theory and Cryptography”, University of Venice, 2018
5. Invited Professor, Laboratoire IRIF, Université Paris-Diderot, 2018
6. Invited talks, Università di Cagliari, March-April, 2018.
7. Invited talk, Institut de Mathématiques, Université d’Aix-Marseille, 2016
8. Invited Professor, Université Paris-Diderot, 2016
9. Invited Professor, Université Paris 13, Laboratoire LIPN, 2015
10. Invited talk, Université Paris 13, 2015
11. Invited talk, Summer of Logic, Università di Cagliari, 2015
12. Invited talk, at Monthly “CHoCoLa” meetings, ENS de Lyon, 2015
13. L’anima del Gattopardo (L’âme du ghepard), film director Annarita Zambrano, Taormina Film Fest 2014
14. A. Bucciarelli, T. Ehrhard, P.A. Melliès and A. Salibra (Guest Editors), Logical Methods in Computer Science, Special Issue on: “Scientific meeting in honor of Pierre-Louis Curien”, Venice, September 2013 (to appear)
15. Program Committee 15th Italian Conference on Theoretical Computer Science, Perugia, Italy, September 17-19th, 2014.
16. Five Invited Talks at Computer Science Department, University of Leicester, January 26-31, 2014.
17. Invited Speaker, Dagstuhl Seminar “Duality in Computer Science” organized by M. Gehrke, J.E. Pin, V. Selivanov, D. Spreen, Schloss Dagstuhl - Leibniz Center for Informatics, Germany, July 28-August 02, 2013
18. Invited Professor, CNRS and Université Paris-Diderot, 2013
19. Invited talk at Monthly ”CHoCoLa” meetings: Curry-Howard: Logic and Computation, ENS de Lyon, February 14, 2013.
20. Invited Speaker, 37th International Symposium on Mathematical Foundations of Computer Science (MFCS 2012), August 27–31, 2012, Bratislava, Slovakia.
21. Invited Professor, Fondation de Mathématique de Paris and Université Paris-Diderot, 2012
22. Mars-Avril 2012. Laboratoire PPS, Université Paris-Diderot. Groupe de travail en “Algebras and lambda-theories”, une série d’exposés d’Antonino Salibra
23. Computability Theory, Summer School AILA (Associazione Italiana di Logica e sue Applicazioni), August 2011
24. Invited Professor, Université Paris-Diderot, 2011

- *Sabbatical leaves for Research:*

1. 2019 : Invited Professor, Université Paris-Diderot

2. 2018 : Invited Professor, Université Paris-Diderot
 3. 2016: Invited Professor, Université Paris-Diderot
 4. 2015: Invited Professor, Université Paris 13, Laboratoire LIPN
 5. 2014: Institute Henri Poincaré, Paris, April 22-July 11 (Trimester: Semantics of proofs and certified mathematics)
 6. 2013: Invited Professor, CNRS et Université Paris-Diderot
 7. 2012: Invited Professor, Fondation de Mathématique de Paris
 8. 2002, 2005, 2007, 2008, 2009, 2011: Invited Professor, Equipe PPS, Université Paris-Diderot
 9. 2007: Chargé de Recherche, LIX, École Polytechnique, Palaiseau
 10. 2003: Invited Professor, Hungarian Academy of Sciences, Budapest
 11. 1996-1997: Invited Professor, Mathematics Department, Victoria University of Wellington
 12. 1992: Invited Professor, Mathematics Department, Iowa State University
- *Research area:* Logic, Theoretical Computer Science and Universal Algebra. The main research subjects include Lambda Calculus; Universal Algebras; Linear Logic; Equational Logic; Variable Binding; Algebraic Logic.
 - *PhD Students:*
 - Stefania Lusin, PhD thesis, 2002.
 - Giulio Manzonetto, PhD thesis, February 2008.
 - Alberto Carraro, PhD thesis, Mars 2011.
 - Giordano Favro, PhD thesis, Mars 2016.
 - *External Examiner of PhD theses:* I have acted as external examiner of the following PhD theses:
 - Giuseppe Scollo, University of Twente, 1993.
 - José Gil-Férez, Substructurality and Residuation in Logic and Algebra, Università di Cagliari, 2015.
 - Thomas Leventis, Probabilistic lambda-theories, 2016. Directeur de these: Laurent Regnier and Lionel Vaux, Aix-Marseille Université, 2016.
 - Luisa Peruzzi, Algebraic approach to paraconsistent weak Kleene logic, Università di Cagliari, 2018.
 - *Awards:*
 1. Giulio Manzonetto, Best PhD thesis of Fondation d'entreprise EADS, France, Supervisors: Chantal Berline (CNRS et Paris 7) and Antonino Salibra (Ca'Foscari).
 2. Alberto Carraro, Award Research Ca'Foscari 2012, PhD Supervisors: Antonio Bucciarelli (Paris 7) and Antonino Salibra (Ca'Foscari).
 - *Teaching activity* was for the Undergraduate Courses on Computer Science Curriculum.
 - *PhD Schools:*
 - A course on Elliptic Curves and Cryptography at Scuola di Dottorato in Informatica, Università Ca'Foscari Venezia, Academic Year 2017/2018.
 - Lessons at Scuola di Dottorato in Filosofia ed Epistemologia, Università di Cagliari, March 2017, February 2016, October 2014, October 2013, January 2013

- Algebraic and topological methods in lambda calculus, Hungarian Academic of Sciences, Budapest, 2003
- Lambda calculus, Università Ca’Foscari Venezia, 2002
- Algebraic Semantics, Università di Bologna, 1995
- *Program committee member:*
 - 15th Italian Conference on Theoretical Computer Science, Perugia, Italy, 2014.
 - CSL’08, Computer Science Logic, Bologna, Italy, 2008.

1 Publications

Preprints

- [1] A. Salibra, A. Bucciarelli, A. Ledda, F. Paoli. Classical logic with n truth values as a symmetric many-valued logic, Part 2, in preparation.
- [2] A. Bucciarelli, A. Salibra. An algebraic theory of clones with an application to a question of Birkhoff and Maltsev. Preprint, October 2020
- [3] A. Bucciarelli, A. Ledda, F. Paoli, A. Salibra. Boolean-like algebras of finite dimension, arXiv:1806.06537, 2018
- [4] A. Carraro, T. Ehrhard, A. Salibra. The stack calculus: equalities induced by the decomposition of Classical Logic into Linear Logic. Preprint, September 2014

Editor

- [5] A. Bucciarelli, T. Ehrhard, P.A. Melliès, A. Salibra (Guest Editors). Logical Methods in Computer Science, Special Issue on: “Scientific meeting in honor of Pierre-Louis Curien”, Venice, September 2013; <http://www.pps.univ-paris-diderot.fr/PLC-meeting>.

LICS

- [6] A. Salibra, G. Manzonetto, G. Favro. Factor Varieties and Symbolic Computation. Proceedings of the 31st Annual ACM-IEEE Symposium on Logic in Computer Science (LICS 2016), July 5-8, New York City, USA, pp. 739–748, 2016.
- [7] A. Carraro, A. Salibra. Reflexive domains are not complete for the extensional lambda-calculus. Proceedings of the 24th Annual IEEE Symposium on Logic in Computer Science (LICS 2009), August 11-14, Los Angeles, USA, pp. 91–100, 2009.
- [8] G. Manzonetto, A. Salibra. Boolean algebras for lambda calculus. Proceedings of the 21st Annual IEEE Symposium on Logic in Computer Science (LICS 2006), August 12-15, Seattle, USA, pp. 317–326, 2006.
- [9] A. Bucciarelli, A. Salibra. The sensible graph theories of lambda calculus. Proceedings of 19th Annual IEEE Symposium on Logic in Computer Science (LICS 2004), July 13-18, Turku, Finland, pp. 276–285, 2004.

- [10] A. Salibra. A continuum of theories of lambda calculus without semantics. Proceedings of 16th Annual IEEE Symposium on Logic in Computer Science (LICS 2001), June 16-19, Boston, USA, pp. 334–343, 2001.

Journals

- [11] A. Salibra, A. Bucciarelli, A. Ledda, F. Paoli. Classical logic with n truth values as a symmetric many-valued logic, *Foundations of Science* (2020), DOI: 10.1007/s10699-020-09697-7
- [12] A. Bucciarelli, A. Salibra. On noncommutative generalisations of Boolean algebras. *The Art of Discrete and Applied Mathematics*, vol. 2 No 2 (2019) #P2.07; <https://doi.org/10.26493/2590-9770.1323.ccb>
- [13] A. Salibra, A. Ledda, F. Paoli. Factor Varieties. *Soft Computing*, Vol. 21(6), pp 1443–1454, 2017.
- [14] A. Bucciarelli, A. Carraro, G. Favro, A. Salibra. Graph easy sets of mute lambda terms. *Theoretical Computer Science*, vol. 629, pp. 51–63, 2016.
- [15] K. Cvetko-Vah, A. Salibra. The connection of skew Boolean algebras and discriminator varieties to Church algebras *Algebra Universalis*, Vol. 73(3), pp. 369–390, 2015.
- [16] A. Ledda, F. Paoli, A. Salibra. On Semi-Boolean-Like Algebras. *Acta Univ. Palacki. Olomuc., Fac. rer. nat., Mathematica* Vol. 52(1), pp. 101–120, 2013.
- [17] A. Salibra, A. Ledda, F. Paoli and T. Kowalski. Boolean-like algebras. *Algebra Universalis*, Vol. 69(2), pp. 113–138, 2013.
- [18] A. Carraro, A. Salibra. Ordered Models of the lambda calculus. *Logical Methods in Computer Science*, Vol. 9(4:21), pp. 1–29, 2013
- [19] A. Carraro, A. Salibra. Easy lambda-terms are not always simple. *RAIRO - Theoretical Informatics and Applications* Vol. 46(2), pp. 291–314, 2012.
- [20] G. Manzonetto, A. Salibra. Applying Universal Algebra to Lambda Calculus, *Journal of Logic and Computation* Vol. 20, pp. 877–915, 2010.
- [21] C. Berline, G. Manzonetto and A. Salibra. Effective Lambda Models Versus Recursively Enumerable Lambda Theories. *Mathematical Structures in Computer Science* Vol. 19, pp. 897–942, 2009.
- [22] A. Bucciarelli, A. Salibra. Graph lambda theories. *Mathematical Structures in Computer Science*, Vol. 18(5), pp. 975–1004, 2008.
- [23] C. Berline, A. Salibra. Easiness in graph models. *Theoretical Computer Science* Vol. 354(1), pp. 4–23, 2006.
- [24] S. Lusin, A. Salibra. The lattice of lambda theories. *Journal of Logic and Computation*, Vol. 14(3), pp. 373–394, 2004.
- [25] A. Salibra. Topological incompleteness and order incompleteness of the lambda calculus. *ACM Transactions on Computational Logic* Vol. 4, pp. 379–401, 2003.
- [26] S. Lusin, A. Salibra. A note on absolutely unorderable combinatory algebras. *Journal of Logic and Computation*, Vol. 13(4), pp. 481–582, 2003.

- [27] A. Salibra. Nonmodularity results for lambda calculus. *Fundamenta Informaticae*, Vol. 45, pp. 379–392, 2001.
- [28] A. Salibra. On the algebraic models of lambda calculus. *Theoretical Computer Science*, Vol. 249, pp. 197–240, 2000.
- [29] A. Salibra, R. Goldblatt. A finite equational axiomatization of the functional algebras for the lambda calculus. *Information and Computation* Vol. 148, pp. 71–130, 1999.
- [30] D. Pigozzi, A. Salibra. Lambda abstraction algebras: coordinatizing models of lambda calculus. *Fundamenta Informaticae* Vol. 33, pp. 149–200, 1998.
- [31] D. Pigozzi, A. Salibra. The abstract variable-binding calculus. *Studia Logica*, vol. 55, n. 1 (1995), pp. 129–179.
- [32] D. Pigozzi, A. Salibra. Lambda abstraction algebras: representation theorems. *Theoretical Computer Science*, Vol. 140, pp. 5–52, 1995.
- [33] D. Pigozzi, A. Salibra. Introduction to lambda abstraction algebras. Proc. IX Latin American Symposium on Mathematical Logic, *Notas de Logica Matematica* Vol. 38, pp. 93–112, 1993.
- [34] A. Salibra, G. Scollo. A reduction scheme by pre-institution transformations” (abstract), *Journal of Symbolic Logic* vol. 58, pp. 1130–1131, 1993.
- [35] V. Manca, A. Salibra. Soundness and Completeness of the Birkhoff Equational Calculus for Many-sorted Algebras with Possibly Empty Carrier Sets. *Theoretical Computer Science* vol. 94, pp. 101–124, 1992.
- [36] V. Manca, A. Salibra, G. Scollo. Introducing equational type logic (abstract), *Journal of Symbolic Logic* vol. 56, p. 1132, 1991.
- [37] V. Manca, A. Salibra, G. Scollo. Equational Type Logic. *Theoretical Computer Science* vol. 77, pp. 131–159, 1990.
- [38] V. Manca, A. Salibra. First-order Theories as Many-sorted Algebras. *Notre Dame Journal of Formal Logic* vol. 25 (1984), pp. 86–94.

Conferences and Chapters in Books

- [39] A. Salibra, A. Ledda, F. Paoli. Boolean Product Representations of Algebras via Binary Polynomials. In J. Czelakowski (Ed.), “Don Pigozzi on Abstract Algebraic Logic, Universal Algebra, and Computer Science”, Outstanding Contributions to Logic Vol. 16, Springer-Verlag, pp. 297–321, 2018
- [40] A. Bucciarelli, A. Carraro, G. Favro, A. Salibra. A graph easy set of mute lambda terms. Proceedings ICTCS 2014, CEUR Workshop Proceedings, Vol. 1231, pp. 59–71, 2014.
- [41] A. Ledda, T. Kowalski, F. Paoli, A. Salibra. Boolean-like algebras. N. Galatos, A. Kurz, C. Tsinakis (eds.), Proceedings TACL 2013, EPiC Series, Easychair Publisher, issn = 2040-557X, vol. 123, pp. 140–143, 2013.
- [42] A. Salibra. Visser topology and other topologies from lambda calculus. Abstract in Proc. Workshop “Duality in Computer Science” (Dagstuhl Seminar 13311), M. Gehrke, J.E. Pin, V. Selivanov and D. Spreen (eds.), Dagstuhl Reports, vol. 3(7), p. 69, 2013.

- [43] A. Bucciarelli, A. Carraro, A. Salibra. Minimal lambda theories by ultraproducts. In Delia Kesner and Petrucio Viana: Proc. LSFA'12, EPTCS vol. 113, pp. 61–76, 2012.
- [44] A. Carraro, T. Ehrhard, A. Salibra. The stack calculus. In Delia Kesner and Petrucio Viana: Proc. LSFA'12, EPTCS vol. 113, pp. 93–108, 2012.
- [45] A. Carraro, A. Salibra. On the equational consistency of order-theoretic models of the lambda calculus. CSL'12 P. Cégielski and A. Durand (Eds.), LIPICS Vol. 16, pp. 152–166, 2012.
- [46] A. Carraro, A. Salibra. On the equational consistency of order-theoretic models of the lambda calculus. CSL'12 P. Cégielski and A. Durand (Eds.), LIPICS Vol. 16, pp. 152–166, 2012.
- [47] A. Salibra. Scott is always simple (Invited Lecture). Proc. MFCS'12. LNCS 7464, Springer-Verlag, pp. 31–45, 2012.
- [48] A. Carraro, T. Ehrhard, A. Salibra. Resource Combinatory Algebras. MFCS'10, LNCS 6281, Springer, pp. 233–245, 2010.
- [49] A. Carraro, T. Ehrhard, A. Salibra. Exponentials with infinite multiplicities. CSL'10, LNCS 6247, pp. 170–184, 2010.
- [50] A. Bucciarelli, A. Carraro, T. Ehrhard, A. Salibra. On Linear Information Systems. *First International Workshop on Linearity* (Linearity'09), EPTCS vol. 22, 2010, pp. 38–48.
- [51] G. Manzonetto, A. Salibra. Lattices of equational theories as Church algebras. Proc. Seventh Panhellenic Logic Symposium, July 15-19, 2009, Patras, Greece. Patras University Press, pp. 117–121, 2009.
- [52] G. Manzonetto, A. Salibra. From Lambda Calculus to Universal Algebra and Back, Proc. MFCS'08. LNCS 5162, Springer-Verlag, Berlin, pp. 479–490, 2008.
- [53] C. Berline, G. Manzonetto, A. Salibra. Lambda theories of effective lambda models, CSL'07, LNCS 4646, Springer-Verlag, pp. 268–282, 2007.
- [54] A. Bucciarelli, A. Salibra. The minimal graph model of lambda calculus. Proc. MFCS'03, LNCS 2747, Springer-Verlag, pp. 300–307, 2003.
- [55] A. Salibra. Lambda calculus: models and theories (Invited Lecture). Proc. Third AMAST Workshop on Algebraic Methods in Language Processing (AMiLP-2003), TWLT Proceedings Series n.21, University of Twente, pp. 39–54, 2003.
- [56] A. Salibra. Towards lambda calculus order-incompleteness. Workshop on Böhm theorem: applications to Computer Science Theory, ENTCS Vol. 50(2), Elsevier, pp. 147–160, 2001.
- [57] A. Salibra. The variety of lambda abstraction algebras does not admit n -permutable congruences for all n . Proc. 4th International Seminar RelMiCS, Ewa Orlowska and Andrzej Szalas eds., Warsaw, Poland, September 14-20, pp. 182–187, 1998.
- [58] A. Salibra. On categorical frames, universal algebra and Boolean algebras with operators in a category (Invited Lecture). Proc. Workshop on Abstract Algebraic Logic, (J. Font, R. Jansana, D. Pigozzi eds.), CRM Quaderns num. 10/ gener, pp. 176–185, 1998.
- [59] A. Salibra, G. Scollo. Interpolation and Compactness in categories of pre-institutions. *Mathematical Structures in Computer Science* vol. 6, pp. 261–286, 1996.
- [60] D. Pigozzi, A. Salibra. Dimension-complemented lambda abstraction algebras. Proc. 3rd International Conference on Algebraic Methodology and Software Technology, (AMAST'93), Workshops in Computing, Springer, pp. 131–138, 1994.

- [61] D. Pigozzi, A. Salibra. A representation theorem for lambda abstraction algebras. MFCS'93, LNCS vol. 711, Springer, pp. 629–639, 1993.
- [62] D. Pigozzi, A. Salibra. Polyadic algebras over non-classical logics. *Algebraic Methods in Logic and in Computer Science*, (C. Rauszer ed.), *Banach Center Publications* vol. 28, Polish Academy of Sciences, Warszawa, pp. 51–66, 1993.
- [63] A. Salibra, G. Scollo. A soft stairway to institutions. Recent Trends in Data Type Specification, (M. Bidoit, C. Choppy eds.), LNCS vol. 655, Springer-Verlag, pp. 310–329, 1993.
- [64] A. Salibra, G. Scollo. Compactness and Löwenheim-Skolem properties in pre-institution categories. *Algebraic Methods in Logic and in Computer Science*, (C. Rauszer ed.), *Banach Center Publications* vol. 28, Inst. Math. Polish Acad. Sci., Warszawa, pp. 67–94, 1993.
- [65] V. Manca, A. Salibra, G. Scollo. On the Expressiveness of Equational Type Logic. Proc. Conference on The Unified Computation Laboratory: Modelling, Specifications and Tools, C.M.I. Rattray, R.G. Clarke eds., Oxford University Press, pp. 85–100, 1992.
- [66] A. Salibra. A General Theory of Algebras with Quantifiers. *Algebraic Logic*, (H. Andréka, J.D. Monk, I. Németi eds.), *Colloq. Math. Soc. J. Bolyai* vol. 54, North-Holland Publishing Co., Amsterdam, pp. 573–620, 1991.
- [67] V. Manca, A. Salibra. On the Power of Equational Logic: Applications and Extensions. *Algebraic Logic*, H. Andréka, J.D. Monk, I. Németi eds., *Colloq. Math. Soc. J. Bolyai* 54, North-Holland Publishing Co., Amsterdam, pp. 393–412, 1991.
- [68] V. Manca, A. Salibra. Equational Calculi for Many-sorted Algebras with Empty Carrier Sets. MFCS'90, LNCS vol. 452, Springer-Verlag, pp. 423–429, 1990.
- [69] V. Manca, A. Salibra, G. Scollo. On the nature of TELLUS (a Typed Equational Logic Look over Uniform Specification). MFCS'89, LNCS vol. 379, Springer, pp. 338–349, 1989.
- [70] V. Manca, A. Salibra, G. Scollo. DELTA: a Deduction system integrating Equational Logic and Type Assignment. Proc. first International Conference on Algebraic Methodology and Software Technology, AMAST'89, Iowa City, Iowa, May 23–25, pp. 137–140, 1989.
- [71] A. Salibra. Universal Algebraic Semantics. *Atti degli Incontri di Logica Matematica*, Università di Siena, Siena, 1986.
- [72] V. Manca, A. Salibra. Algebra Universale e Logica in Computer Science. *Atti degli Incontri di Logica Matematica*, Università di Siena, Siena, 1982.

Books

- [73] S. Antonelli, V. Manca, A. Salibra. Logica del Primo Ordine. *Editrice Tecnico Scientifica*, Pisa, 1983.
- [74] S. Antonelli, V. Manca, A. Salibra. Logica. *Editrice Tecnico Scientifica*, Pisa, 1981.