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Google Scholar: <http://scholar.google.it/citations?user=mIFHnOUAAAAJ&hl=it&oi=ao>
ORCID:0000-0002-3650-5858.

I was born in Siracusa on August 22nd, 1979.

Education and activities :

- 1998-2003: **Master Degree in Theoretical Physics.** University of Catania. Title of my Thesis: "Historical and Epistemological aspects of Quantum Mechanics and "Non-locality" consequences".
- 2006-2010: **Ph.D.** (with fellowship) in History, Philosophy and Didactics of Science. Title of my Ph.D. Thesis: "Reversibility and Universality in Quantum Computation".
- 2009: Co-operation with the Mathematical Institute of The Slovak Academy of Science-Bratislava.
- 2009: Member of Project (supported by Regione Sardegna): Regional programme (POR Sardegna 2000-2006, Misura 3.6, Azione 3.6.a) against high school wastage.
- 2009: Elected "Expert on the subject on Logic" – University of Cagliari.
- 2010- 2012: Post-doc fellowship "Foundational research for young researchers – POR Sardegna FSE 2007-2013, L.R.7/2007" sponsored by Regione Sardegna. Principal Investigator of the project: "Logical-Algebraic Approach to Quantum Computing: Theoretical Aspects and Possible Implementations" (120.000 euro).
- 2010: Visiting Scholar at the Department of History and Philosophy of Science, Indiana University, Bloomington.
- 2011: Board member of the project E-society-3.0, ranked among the best six projects of the competition Start-Cup Sardinia 2011.
- 2012: Fellowship for the National research project P.R.I.N. 2009: "Non-classical Logics for the ontology representation in the informatics archives ", University of Cagliari.
- 2013: Member of the project: "Modeling the uncertainty: Quantum Theory and Imaging Processing", supported by Regione Sardegna (Legge Regionale 7 Agosto 2007, n.7, Promozione della ricerca scientifica e dell'innovazione tecnologica in Sardegna).
- 2013: Proponent as Principal Investigator of the F.I.R.B. project: "Quantum Computational theory applied to Pattern Recognition (Q.C.T.P.R.)" (M.I.U.R. code: RBFR138YF2) valued as eligible but non funded by M.I.U.R.
- 2013: Member of the P.R.I.N. Project: "From Models to Logic: Structures Logification and the Equivalence between Logics".
- 2013: **National Scientific Qualification** for the position of Associate Professor (Scientific Area 11/C2: Logic and Philosophy of Science).
- 2013: Member of the Committee for the admittance texts at the Department of Pedagogy, Psychology, Philosophy at the University of Cagliari.

- 2014-2016: Researcher at the University of Cagliari, for the F.I.R.B. project: "Structures and Dynamics of Knowledge and Cognition" (M.I.U.R. code: RBFR126ZA6) funded by M.I.U.R.
- 2014: **National Scientific Qualification** for the position of Associate Professor (Scientific Area 01/A1: Mathematical Logic).
- 2015: Member of the European project "Syntax Meets Semantics: Methods, Interactions, and Connections in Substructural logics" (H2020-MSCA-RISE-2015 code: 689176) funded by the European Commission.
- 2016-current: Tenured Researcher at the University of Cagliari.
- 2017-current: Principal Investigator of the Project: "Logical-time evolution of correlated microscopic systems", Founded by Regione Autonoma della Sardegna (50.000 euro).
- 2017-current: member of the Ph.D in Philosophy, Epistemology and Cultural history – University of Cagliari.
- 2017-current: Secretary of the Italian Society of Logic and Philosophy of Science (SILFS).
- 2017-current: Principal Investigator of the Project: "Strategies and Technologies for Scientific Education and Dissemination", Founded by Fondazione Sardegna (64.500 euro).

Publications:

1. G. Sergioli, H. Freytes (2017). *Fuzzy approach to Quantum Fredkin Gate*. JOURNAL OF LOGIC AND COMPUTATION, ISSN 0955-792X, Oxford Academic (to appear). [Download](#)
2. G. Sergioli, G.M. Bosyk, E. Santucci, R. Giuntini (2017). *A quantum-inspired version of the classification problem*. INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, ISSN: 0020-7748, Vol. 56, N. 12, pp. 3880-3888. Springer. [Download](#)
3. R. Venkatrama, G. Sergioli, H. Freytes, R. Leporini (2017). Fredkin and Toffoli quantum gates: fuzzy representations and comparison. Proceedings of the Third Conference on Physical, Philosophical and Logical Perspectives, World Scientific (to appear). [Download](#)
4. E. Santucci, G. Sergioli (2017). *Classification Problem in a Quantum Framework*. Proceedings of the Vaxjo Conference "Quantum and Beyond 2016", Springer (to appear). [Download](#)
5. R. Venkatrama, G. Sergioli, H. Freytes, R. Leporini (2017). *Fuzzy type representation of the Fredkin gate in quantum computation with mixed states*. INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, ISSN: 0020-7748, Springer (doi: 10.1007/s10773-017-3362-2, to appear). [Download](#)
6. F. Holik, G. Sergioli, H. Freytes, A. Plastino (2017). *Pattern Recognition in non-Kolmogorovian Structures*. FOUNDATIONS OF SCIENCE, ISSN: 1233-1821, Springer (to appear). [Download](#)
7. G.M. Bosyk, G. Sergioli, H. Freytes, F. Holik, G. Bellomo (2016). *Approximate transformations of bipartite pure-state entanglement from the majorization lattice*. PHYSICA A, ISSN: 0378-4371, Elsevier (doi.org/10.1016/j.physa.2016.12.083, to appear). [Download](#)
8. F. Holik, G. Sergioli, H. Freytes, R. Giuntini, A. Plastino (2016). *Toffoli gate and quantum correlations: a geometrical approach*. QUANTUM INFORMATION PROCESSING, ISSN: 1570-0755, Springer (doi:10.1007/s11128-016-1509-3, to appear). [Download](#)
9. G. Sergioli, E. Santucci, L. Didaci, J. Miszczak, R. Giuntini (2016). *A Quantum-inspired version of the Nearest Mean Classifier*. SOFT COMPUTING, ISSN: 1432-7643, Springer (doi:10.1007/s00500-016-2478-2, to appear). [Download](#)
10. M.L. Dalla Chiara, R. Giuntini, G. Sergioli, R. Leporini (2016). *A many-valued approach to quantum computational logics*. FUZZY SETS AND SYSTEMS, ISSN: 0165-0114, Elsevier (doi.org/10.1016/j.fss.2016.12.015, to appear). [Download](#)

11. M.L. Dalla Chiara, R. Giuntini, G. Sergioli, R. Leporini (2016). *Abstract quantum computing machines and quantum computational logics*. INTERNATIONAL JOURNAL OF QUANTUM INFORMATION, Vol. 14, 1640019. ISSN:0219-7499, World Scientific. [Download](#).
12. M. Giunti, A. Ledda, G. Sergioli (2016). *I modelli nelle teorie scientifiche*. CAROCCI, ISBN: 978-88-430-8221-6.
13. G. Sergioli, H. Freytes (2016). *Fuzzy approach for C-NOT gate in quantum computation with mixed states*. In: D. Aerts, C. de Ronde, H. Freytes, R. Giuntini (Edts.), *Probing the Meaning and Structure of Quantum Mechanics: Superpositions, Semantics, Dynamics and Identity*. ISBN: 978-981-3146-27-3, World Scientific – Singapore. [Download](#)
14. G. Sergioli, A. Ledda, R. Giuntini (2016). *Binary gates in three valued quantum computational logics*. In: D. Aerts, C. de Ronde, H. Freytes, R. Giuntini (Edts.), *Probing the Meaning and Structure of Quantum Mechanics: Superpositions, Semantics, Dynamics and Identity*. ISBN: 978-981-3146-27-3, World Scientific – Singapore. [Download](#)
15. M.L. Dalla Chiara, R. Giuntini, R. Leporini, G. Sergioli (2016). *A first-order epistemic quantum computational semantics with relativistic-like epistemic effects*. FUZZY SETS AND SYSTEMS, Vol. 298, pp. 69-90. ISSN: 0165-0114, Elsevier. [Download](#)
16. R. Giuntini, H. Freytes, G. Sergioli (2016). *Quantum logic associated to finite dimensional intervals of modular ortholattices*. JOURNAL OF SYMBOLIC LOGIC, Vol. 81, N. 02, pp. 629-640, ISSN: 0022-4812, Cambridge University Press. [Download](#)
17. M.L. Dalla Chiara, R. Giuntini, R. Leporini, E. Negri, G. Sergioli (2015). *Quantum information, cognition and music*. FRONTIERS IN PSYCHOLOGY, Vol.6-1583, ISSN: 1664-1078, Frontiers. [Download](#)
18. F. Ervas, E. Gola, A. Ledda, G. Sergioli (2015). *Lexical ambiguity in elementary inferences: an experimental study*. DISCIPLINE FILOSOFICHE, Vol. 25, N. 1, ISSN: 1591-9625, Quodlibet. [Download](#)
19. G. Sergioli, R. Leporini (2015). *Quantum Approach to Epistemic Semantics*. SOFT COMPUTING, ISSN: 1432-7643, DOI:10.1007/s00500-015-1781-7, Springer (to appear). [Download](#)
20. H. Freytes, R. Giuntini, R. Leporini, G. Sergioli (2015). *Entanglement and quantum logical gates. Part I*. INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, Vol. 54, N.12, pp. 4518-4529, ISSN: 0020-7748, Springer. [Download](#)
21. G. Sergioli (2015). *Le Fallacie Argomentative*. APHEX – Giornale di Filosofia, N. 12-2015, ISSN 2036-9972. [Download](#)
22. G. Sergioli, A. Ledda (2015). *A note on many valued Quantum Computational Logics*. SOFT COMPUTING, ISSN: 1432-7643, DOI 10.1007/s00500-015-1790-6, Springer (to appear). [Download](#)
23. M.L. Dalla Chiara, R. Leporini, G. Sergioli (2015). *Entanglement and quantum logical gates. Part II*. INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, Vol. 54, N.12, pp. 4530-4545, ISSN: 0020-7748, Springer. [Download](#)
24. H. Freytes, G. Sergioli (2014). *Fuzzy approach for Toffoli gate in quantum computation with mixed states*. REPORTS ON MATHEMATICAL PHYSICS, ISSN:0034-4877, Vol. 74, Issue 2, pp. 159-180, Elsevier. [Download](#)
25. M.L. Dalla Chiara, R. Giuntini, R. Leporini, G. Sergioli (2016). *Holistic logical arguments in quantum computation*. MATHEMATICA SLOVACA, ISSN: 0139-9918, Vol. 66, No.2, Springer. [Download](#)
26. M. Giunti, G. Sergioli, G. Vivinet (2014). *L'ontologia BIA-Net: una base per la ricerca di informazioni secondo rapporti di rilevanza nella Bibliotheca Iuris Antiqui*. Cap. 5, Proceedings of the First Annual Conference of the Humanistic Informatics and Digital Education, Florence 13-14 December 2012, Quaderni Digilab, Digital Humanities, ISBN 978-88-98533-27-5. [Download](#)

27. A. Hagar, G. Sergioli (2014). *Counting Steps: A Finitist Approach to Objective Probability in Physics*. EPISTEMOLOGIA, ISSN 0392-9760, Issue 2, pp. 262-275. [Download](#)
28. E. Beltrametti, M.L. Dalla Chiara, R. Giuntini, R. Leporini, G. Sergioli (2013). *A quantum computational semantics for epistemic logical operators. Part I: epistemic structures*. INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, ISSN: 0020-7748, Vol. 53, Issue 10, pp. 3279-3292, Springer. [Download](#)
29. E. Beltrametti, M.L. Dalla Chiara, R. Giuntini, R. Leporini, G. Sergioli (2014). *A quantum computational semantics for epistemic logical operators. Part II: semantics*. INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, ISSN: 0020-7748, Vol. 53, Issue 10 pp. 3293-3307, Springer. [Download](#)
30. G. Sergioli, C. Ternullo (2014). *Fallacious Analogical Reasoning and the Metaphoric Fallacy to a Deductive Inference (MFDI)*. ISONOMIA, Vol.5, ISSN 2037-4348. [Download](#)
31. M.L. Dalla Chiara, R. Giuntini, G. Sergioli (2013). *Probability in quantum computation and in quantum computational logics*. MATHEMATICAL STRUCTURES IN COMPUTER SCIENCE, ISSN: 0960-1295, Vol.14, Cambridge University Press. [Download](#)
32. H. Freytes, A. Ledda, G. Sergioli, R. Giuntini (2013). *Probabilistic logics in quantum computation*. In: *New Challenges to Philosophy of Science* (proceedings of the workshops held in 2011), edited by Hanne Andersen, Dennis Dieks, Wenceslao J. Gonzalez, Thomas Uebel, Gregory Wheeler, ISBN: 978-94-007-5844-5, Vol. 4, p. 49-57, Springer. [Download](#)
33. R. Giuntini, F. Paoli, H. Freytes, A. Ledda, G. Sergioli (2013). *What is Fuzzy Logic – And Why it Matters to Us*. In: *On Fuzziness – A Homage to Lotfi A. Zadeh*, ISBN: 978-3-642-35640-7, Vol. 298, p. 211-215, Springer. [Download](#)
34. E. Beltrametti, M.L. Dalla Chiara, R. Giuntini, R. Leporini, G. Sergioli (2012). *Epistemic Quantum Computational Structures in a Hilbert-space Environment*. FUNDAMENTA INFORMATICAIE, ISSN: 0169-2968, vol. 115, p. 1-14, IOS press. [Download](#)
35. G. Sergioli (2012). *La logica computazionale quantistica dei sistemi aperti*. LOGIC AND PHILOSOPHY OF SCIENCE, ISSN: 1826-1043, Vol. 10, No 1, p. 31-51. [Download](#)
36. E. Beltrametti, R. Giuntini, M.L. Dalla Chiara, G. Sergioli (2012). *Quantum teleportation and quantum epistemic semantics*. MATHEMATICA SLOVACA, ISSN: 0139-9918, Vol.62, n.6, p. 1121-1144, Springer. [Download](#)
37. M.L. Dalla Chiara, A. Ledda, G. Sergioli, R. Giuntini (2012). *The Toffoli-Hadamard gate: an algebraic approach*. JOURNAL OF PHILOSOPHICAL LOGIC, ISSN: 0022-3611, Vol. 42, n. 2, p.467-481, Springer. [Download](#)
38. F. Paoli, C. Crespellani Porcella, G. Sergioli (2012). *Ragionare nel quotidiano*. Milano-Udine: Mimesis Edizioni, ISBN: 9788857513164. [Download](#)
39. G. Sergioli (2012). *Irreversibility and Universality in Quantum Computation*. LAP Lambert Academic Publishing AG & Co KG, ISBN: 978-3846551004 (Ph.D. Thesis). [Download](#)
40. G. Sergioli, R. Giuntini, F. Paoli (2011). *Irreversibility in Quantum Computational Logics*. APPLIED MATHEMATICS & INFORMATION SCIENCES, ISSN: 1935-0090, Vol.5 n.2, p. 171-191, Natural Science Publishing. [Download](#)
41. R. Giuntini, A. Ledda, G. Sergioli, F. Paoli (2011). *Some Generalizations of Fuzzy Structures in Quantum computational Logic*. INTERNATIONAL JOURNAL OF GENERAL SYSTEMS, ISSN: 0308-1079, vol. 40, n.1, p. 61-83, Taylor & Francis. [Download](#)
42. M.L. Dalla Chiara, G. Sergioli (2011). *Strutture Algebriche nella Computazione Quantistica*. In: *La ricerca logica in Italia – Convegno in onore di Corrado Mangione*, Quaderni di acme ISSN 0393-3288, p. 315-332. [Download](#)
43. H. Freytes, A. Ledda, G. Sergioli (2010). *Continuous Functions as Quantum Operations: a Probabilistic Approximation*. LOGIC AND PHILOSOPHY OF SCIENCE, ISSN: 1826-1043, vol. 8 n.1, p. 83-100. [Download](#)

44. M.L. Dalla Chiara, R. Giuntini, A. Ledda, R. Leporini, G. Sergioli (2010). *Entanglement as a Semantic Resource*. FOUNDATIONS OF PHYSICS, ISSN: 0015-9018 vol. 40-9, p. 1494-1518, Springer. [Download](#)
45. H. Freytes, G. Sergioli, A. Aricò (2010). *Representing continuous t-norms in quantum computation with mixed states*. JOURNAL OF PHYSICS A, MATHEMATICAL AND THEORETICAL, ISSN: 1751-8113, vol. 43, N.46, IOP science. [Download](#)
46. A. Ledda, G. Sergioli (2010). *Towards Quantum Computational Logics*. INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, vol. 49-12, ISSN: 0020-7748, Springer. [Download](#)
47. H. Freytes, R. Giuntini, G. Sergioli, A. Aricò (2010). *Representing fuzzy structures in quantum computation with mixed states*. In: Proceedings of ISMVL 2010 – 40th International Symposium on Multiple-Valued Logic. University of Barcelona. p. 162-166, ISBN: 978-1-4244-6752-5. [Download](#)
48. F. Paoli, C. Crespellani Porcella, G. Sergioli (2010). *Impariamo a ragionare*. Cuec University Press, ISBN: 978-88-8467-499-9. [Download](#)
49. M.L. Dalla Chiara, R. Giuntini, H. Freytes, A. Ledda, G. Sergioli (2009). *The algebraic structure of an approximately universal system of quantum computational gates*. FOUNDATIONS OF PHYSICS, ISSN: 0015-9018, vol. 39-6, p. 559-572, Springer. [Download](#)
50. G. Sergioli, A. Ledda, F. Paoli, R. Giuntini, T. Kowalski, F. Montagna, H. Freytes, C. Marini (2009). *Two cooperative versions of the Guessing Secrets problem*. INFORMATION SCIENCES, ISSN: 0020-0255, vol. 179-20, p. 3645-3658, n.20, Elsevier. [Download](#)

Affiliations:

- 2005: Member of S.I.F. (Italian Physics Society).
- 2008: Member of I.Q.S.A. (International Quantum Structures Association).
- 2009: Member of the Alophis research group (Applied Logics, Philosophy and History of Science, University of Cagliari).
- 2010: Member of S.I.L.F.S. (Italian Society of Logic and Philosophy of Science).
- 2012 : Member of S.I.F.A. (Italian Society of Analytic Philosophy).

Prizes:

- 2005: I was awarded with the prize S. Notarrigo, by S.I.F. (Italian Physics Society) for my master thesis: "Historical and Epistemological aspects of Quantum Mechanics and "Non-locality" consequences".
- 2017: Winner of the "funding of basic research activities" (Ffabr).

Referee / Reviewer for:

- "Fuzzy Sets and Systems" – Elsevier;
- "International Journal of Theoretical Physics" – Springer;
- "Information Science" – Elsevier;
- "Soft Computing" – Springer;
- "Quantum Information Processing" – Springer;
- "Foundations of Physics" – Springer;
- "Theoretical Computer Science" – Elsevier;
- "Frontiers in Physics";
- "Aphex (Analytical and Philosophical Explanation)";
- "Philosophical Transactions A" – Royal Society Publishing;
- "Journal of Zhejiang University Science C (Computer & Electronics) – Springer";

- Conference proceedings by LNCS (CIE-2013, Computability in Europe) – Springer Verlag;
- “*Philosophy Study*” (David Publishing Company);
- “*Argumenta*” (Journal of the Italian Society for Analytic Philosophy);
- “RoAM” International Conference;
- “*SILFS2014*” International Conference”;

-
- Reviewer for “*Mathematical Reviews*” (American Mathematical Society);
 - Reviewer for “*Annals of Physics*” – Elsevier;
 - Reviewer for “*ZbMath*” (Zentralblatt MATH) – Springer;
 - Reviewer for the Research Fund Flanders (FWO) Foundation (Brussel).
 - Reviewer for the MIUR (Italian Ministry of Education and Research) for the evaluation of the quality of the research.

Guest Editor for:

- “*Quantum, Logic and Music*” – Special Issue of *Soft Computing* (Springer), with M.L. Dalla Chiara, R. Giuntini, E. Negri, S. Smets.
- “*Logic, Pluralism and Translation*” – Special Issue of *Topoi* (Springer), with F. Ervas, A. Ledda, F. Paoli (in progress).

Meetings and conferences:

- 2004: 13-17 September. VII summer school on Philosophy of Physics University research center on Philosophy and Foundation of Physics. Cesena.
- 2004: National conference: “Foundation of Quantum Mechanics. State of art and further developments”. University of Lecce.
- 2005: National conference: “Natural Processes and Models of Computation”. University of Bologna. Bologna.
- 2005: National conference: XCI National Conference of S.I.F. (Italian Physics Society). University of Catania.
- 2005: International conference: “Second Florence-Vienna workshop on Logic and Computation”. University of Florence.
- 2006: June. International conference: “*Ordered Structures in Many-Valued Logic*”. Massa Lubrense (Sorrento). Naples.
- 2007: 5-6 October. Organizer of the International meeting: “First Catalan-Sardinian Workshop on Algebraic and Fuzzy Logic”. Title of my talk: “*Algebras and logics from quantum computation*”. University of Cagliari.
- 2008: May. International conference: “ManyVal ’08: Applications of Topological Dualities to Measure Theory in Algebraic Many-Valued Logic”. Title of my talk: “*Stone -Weierstrass Type Theorem for Density Operators*”. University of Milan.
- 2008: 6-12 June. International conference: “9th Biannual IQSA Meeting, Quantum Structures, Brussels-Gdansk”. Title of my talk: “*Approximation in Quantum Computational Logics*”. University of Danzig.
- 2008: 24-29 October. International conference: “*Italian Quantum Information Science Conference*”. University of Camerino.
- 2008: 11-12 December. International conference: “*Studia Logica International Conference, Trends in Logic VI*”. Title of my talk: “*Reversibility and Irreversibility in the Logic of Quantum Computation*”. University of Bruxelles.
- 2009: 10-11 September. Italian Conference: Research on “Logic in Italy”. Title of my talk: “*Logic and Quantum Computation*”. University of Milan.
- 2010: 6 October. Invited Speaker at the Logic Seminar, Mathematics Department. Title of my talk: “*Irreversibility and Universality in Quantum Computation*”. Indiana University, Bloomington.

- 2010: 8 October. Invited speaker at the Colloquium Series, Spring 2010. Department of History of Philosophy of Science. Title of my talk: "*Entanglement – From an Embarrassment to an Asset*". Indiana University, Bloomington.
- 2010: 1 December. Invited speaker at the Logic Seminar, Mathematics Department. Joint talk with Amit Hagar. Title of the talk: "*Counting your steps: A New, Finitist and Objective Interpretation of Probability in Physics*". Indiana University, Bloomington.
- 2010: 15-17 December. Italian Society for Logic and Philosophy of Science International Conference (SILFS 2010). Title of the talks: "*Representing continuous t-norms in quantum computation with mixed states*" and (joint talk with Amit Hagar) "*Counting your steps: A New, Finitist and Objective Interpretation of Probability in Physics*". University of Bergamo.
- 2012: 19-21 April. Invited speaker at the "First joint Bochum-Cagliari workshop on Non-Classical Logic". Title of the talk: "*Epistemic Quantum Computational Structures*". Ruhr University of Bochum.
- 2012: 12-14 June. Cagliari/Urbino Workshop "Metafora e Argomentazione". Title of the talk: "*Metaphor and equivocation fallacy*" (joint talk with C. Ternullo). University of Cagliari.
- 2012: 23-27 July. Member of the organizing committee for the 11th Biennial IQSA Meeting Quantum Structures. University of Cagliari.
- 2012: 13-14 December. Florence. First Annual Conference of the Humanistic Informatics and Digital Education. Title of the talk: "*L'ontologia BIA-Net: una base per la ricerca di informazioni secondo rapporti di rilevanza nella Bibliotheca Iuris Antiqui*." (joint talk with M. Giunti, G. Vivinet). University of Florence.
- 2012: 12-15 September. S.I.F.A. (Analytic Philosophy Italian Society) 20th anniversary conference. Title of my talk: "*How Do Metaphors Influence Quaternio Terminorum Comprehension?*" (Joint talk with F. Ervas). Alghero. University of Sassari.
- 2012: 26-28 September. Italian Quantum Information Science (I.Q.I.S.) conference 2012. Title of my talk: "*Knowledge Operations as Quantum Channels*". University of Padua.
- 2013: 27-28 May. Metaphor, analogy, reasoning. Title of my talk: "*Entanglement and holistic structures in quantum computation*". University of Urbino.
- 2013: 29-31 May. Silfs2013 Postgraduate Conference. Title of my talk (joint talk with E. Gola, F. Ervas, A. Ledda): "*The Persuasive Force of Metaphors in Argumentation*". University of Urbino.
- 2013: 15-17 June. Logic, Quantum and Music. International Conference. Title of my talk (joint talk with E. Beltrametti, R. Leporini): "*Quantum Entanglement and Logical Semantics*". University of Florence.
- 2013: 16-18 September. Language, Logic and Mind. 3rd SIFA Graduate Conference. Organization Committee. University of Cagliari.
- 2014: 17-20 December. Vagueness via Nonclassical Logics. International Conference. Title of the accepted abstract (joint abstract with A. Ledda): "*Vagueness, uncertainty and fuzziness in quantum computational logics*". Talk introduced by A. Ledda. University of Sidney.
- 2014: 8-9 January. Invited speaker at the "FoPim – Foundations of Physics" meeting. Title of my talk: "*Holistic structures in Quantum Computation. An application to Werner and Isotropic States*". Department of Physics and Astronomy, University of Florence.
- 2014: 18-22 February. Graded Logical Approaches and their Applications. 35th Linz Seminar on Fuzzy Set Theory. Title of the accepted abstract (joint abstract with M.L. Dalla Chiara, R. Giuntini, R. Leporini): "*An approach to first-order quantum computational semantics*". Talk introduced by M.L. Dalla Chiara and R. Leporini. Johannes Kepler Universitat, Linz.
- 2014: 31 March-2 April. Invited speaker at the Amsterdam Quantum Logic Workshop (joint talk with H. Freytes): "*Fuzzy Structures in Quantum Computation with Mixed States*". Univesiteit Van Amsterdam.

- 2014: 18-21 June: SILFS triennial conference 2014. Title of my talk: "*Entanglement and Holistic Conjunctions in Quantum Computation*". University of Roma3, Rome.
- 2014: 23-27 June: 12th biennial IQSA meeting. Title of my talk: "*Entanglement and Holistic Conjunctions in Quantum Computation*". University of Olomouc.
- 2014: 23-25 July: Member of the organizing committee of the International Meeting "Quantum Mechanics and Quantum Information. Physical, Philosophical and Logical approaches". Title of my talk: "*Quantum Computation with qutrits. A work in progress*". University of Cagliari.
- 2015: 30-31 January: International Meeting "Quantum Computation, Quantum Information and the Exact Sciences". Title of my talk: "*Non-separability in the representation of Fuzzy Structures in Quantum Computation*". Munich Center for Mathematical Philosophy, Ludwig-Maximilians Universität, München.
- 2015: 20-21 February. Invited speaker at the "FoPim2 – Foundations of Physics" meeting. Title of my talk: "*Non-separability in the representation of Fuzzy Structures in Quantum Computation*". Department of Physics and Astronomy, University of Florence.
- 2015: 10-13 June. International Symposium "Quantum Theory: Advances and Problems – QTAP". Title of my talk: "*Quantum Turing machines, quantum computational logics and cognitive processes*" (talk introduced by M.L. Dalla Chiara). International Center for Mathematical Modeling in Physics, Engineering, Economics, and Cognitive Science Linnaeus University, Växjö-Kalmar.
- 2015: 23-24 July. Organizing Committee of the II International Workshop Quantum Mechanics and Quantum Information: Physical, Philosophical and Logical perspectives. Titles of my talks: "*Non-separability in Quantum Computation: representing continuous t-norm*" and "*Quantum Pattern Recognition*", VUB Brussels free University.
- 2015: 24-26 September. SIFA Conference: Truth and Persuasion. Titles of my talk: "*Does Expertise Favour the Detection of the Metaphoric Fallacy?*" (join talk with F. Ervas, E. Gola, A. Ledda; talk introduced by F. Ervas), University of Sassari.
- 2015: 21 October. Model of explanation: logic, science and cognition. Titles of my talks: "*A non-standard application of Quantum Theory: modeling the uncertainty*", University of Bologna.
- 2016: 2-6 February. Linz Seminar on Fuzzy Set Theory – Functional Equations and Inequalities. Titles of my talks: "*Equations and Inequalities in Quantum Logics*", (join talk with M.L. Dalla Chiara, R. Giuntini, A. Ledda, R. Leporini; talk introduced by M.L. Dalla Chiara), Johannes Kepler University Linz.
- 2016: 13-16 June. International Symposium "Quantum and Beyond". Title of my talk: "*Quantum Pattern Recognition*". International Center for Mathematical Modeling in Physics, Engineering, Economics, and Cognitive Science Linnaeus University, Växjö-Kalmar.
- 2016: 16-18 June. III International Workshop on Quantum Mechanics and Quantum Information. Title of my talk: "*Quantum Pattern Recognition*". Physical, Philosophical and Logical Perspectives. Sadaf – UBA, Universidad de Buenos Aires.
- 2016: 22 June. Seminarios y Coloquios. Title of my talk: "*Quantum Pattern Recognition*". Instituto de Física, Universidad Nacional de La Plata.
- 2016: 11-15 July. Biennial Meeting of the International Quantum Structures Association "QS Leicester 2016". Title of my talks: "*Qudit-spaces and a many-valued approach to quantum computational logics*" (join talk with M.L. Dalla Chiara, R. Giuntini, R. Leporini; talk introduced by M.L. Dalla Chiara) and "*Fuzzy representation of Fredkin gate for a conservative quantum computational logic with mixed states*" (join talk with R. Venkatrama; talk introduced by R. Venkatrama). University of Leicester.
- 2016: 3-4 November. Organizer of the International Workshop on Applied Mathematics & Quantum Information. Title of my talk: "*A Quantum-inspired version of the Nearest Mean Classifier*". University of Cagliari.
- 2016: 12-14 December. Invited speaker at the VI Conference on Quantum Foundations. Title of my Skype-talk: "*Quantum Computational Logic with Qutrits*". Science and Technology Center – Conicet, La Plata.

- 2017: 21 March. Invited to introduce the book "I Modelli nelle teorie scientifiche". Scuola Superiore Catania, University of Catania.
- 2017: 3-7 July. QPL/IQSA meeting 2017 (Quantum, Physics & Logic / International Quantum Structures Association meeting 2017). Title of my talks: "*Entanglement, Holism and Contextuality in the Logic of Quantum Computation*" (with M.L. Dalla Chiara, R. Giuntini and R. Leporini) and "*An Operational Approach to Quantum Circuits*", Radboud University, Nijmegen.
- 2017: 25-26 September. BuCal2017 – First Bucharest-Cagliari Logical meeting. Title of my talk: "*A Block-matrix representation of Quantum Circuits. Towards a new approach to the Quantum Computational Logic*", Faculty of Mathematics and Computer Science, University of Bucharest.
- 2017: 29-30 September. Invited Speaker at the Worlds of Entanglement Symposium. Title of my talk: "*A Quantum approach for Pattern Recognition*", Free University of Brussels.
- 2017: 6-8 November. QTML2017 – Quantum Technology in Machine Learning. Title of my talk: "*A Quantum inspired version of the Nearest Mean Classifier*", Department of Computer Science, University of Verona.
- 2017: 6-8 December. Invited Speaker at the International workshop of Quantum Mechanics and Quantum Information – Physical, Philosophical and Logical perspectives. Title of my talk: "*Towards a multi-target quantum computational logic*", Federal University of Santa Catarina, Florianópolis – Brasil.

Research Interests:

Quantum Computation, Quantum Communication and Quantum Logic; Game Theory; Logic and Argumentation Theory. Application of Quantum Formalism in macroscopic domain.

Teachings:

2006–2010: Cofacilitator for the chair of Logic and Basic Mathematics, at the Department of Education Science. University of Cagliari.

2006–2010; 2012–2013: Cofacilitator for the chair of Logic and Critical Thinking, at the Department of Communication Science . University of Cagliari.

2009: Creation of a SCORM course on Logic and Methodology of Science for e-learning application.

2008–2010; 2012–2013: Cofacilitator for the chair of Logic and Methodology of Science at the Department of Communication Science . University of Cagliari.

2012: Logic and Basic Mathematics, at the Political Science Department. University of Cagliari.

2013: Creation of a SCORM course on Logic for e-learning application.

2014: Basic Mathematics, at the Department of Education, Psychology, Philosophy. University of Cagliari.

2014: Physics Laboratory, at the Department of Education, Psychology, Philosophy. University of Cagliari.

2015-2016: Laboratory of Didactics of Mathematics, at the Department of Education, Psychology, Philosophy. University of Cagliari.

2016: Methodology of Applied Sciences, at the Department of Education, Psychology, Philosophy. University of Cagliari.

2016: Logic and Basic of Mathematics, at the Department of Medicine. University of Cagliari.

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