Daniele Francesco Santamaria

Ph.D. in Computer Science, *Curriculum Vitae*
University of Catania, Italy

▬▬▬ Personal Information

First name	Daniele Francesco.
Last name	Santamaria.

▬▬▬ Main Position

December, 2024 - Today	**Assistant Professor**, *Department of Mathematics and Computer Science, University of Catania, Italy.*

▬▬▬ Work Experiences

January, 2023 - November 2023	**Postdoctoral Researcher (Italian Assegnista di Ricerca)**, *Department of Humanities, University of Catania, Italy*, Semantic Web Applied for Modeling II millennium BC polytheisms in the Levant, scientific supervisors Prof. Domenico Cantone and Prof. Nicola Laneri
January, 2021 - January, 2023	**Postdoctoral Researcher (Italian Assegnista di Ricerca)**, *Department of Mathematics and Computer Science, University of Catania, Italy*, Topic: Computational Logic, Knowledge Representation and Reasoning, Semantic Web, Blockchain, Algorithm and Software Engineering, scientific supervisors Prof. Marianna Nicolosi Asmundo and Prof. Domenico Cantone.
April, 2020 - April 2022	**IT Consultant**, *Sicilian Wheat Bank S.P.A (https://www.bancadelgrano.it). Roles: adjunct project manager, Ethereum developer, knowledge engineer, quality assurance and testing manager.*
October, 2019 - January 2024	**Adjunct Professor**, *University of Catania, Italy.*
March, 2019 - March 2020	**Postdoctoral Researcher (Italian Assegnista di Ricerca)**, *Department of Mathematics and Computer Science, University of Catania, Italy*, Project CLARA, Aerial monitoring of the territory through the use of UAV swarms, scientific supervisor Prof. Corrado Santoro.
January, 2015 - October, 2015	**Research assistant**, *Department of Mathematics and Computer Science, University of Catania, Italy*, Project "PRIME - Piattaforma di Reasoning Integrata, Multimediale, Esperta" (Bando 3070/3 del 18/09/2012, POR FESR Sicilia 2007/2013). Topic: Analysis, Design and Implementation of Software for Reasoning on Local and Distributed Semantic Data and Integration of Database-Oriented Applications on Semantic Data, scientific supervisor Prof. Emiliano Tramontana.

July, 2014 - October, 2015	**Research assistant**, *Department of Mathematics and Computer Science, University of Catania, Italy*, Topic: Computational Logic, Knowledge Representation and Reasoning, Semantic Web, Algorithm and Software Engineering, scientific supervisors Prof. Marianna Nicolosi Asmundo and Prof. Domenico Cantone.
2012- 2015	**IT Consultant**, *Freelance.*
2011 - 2015 Today	**Private Teacher**, *Freelance*, Subjects: SQL, C\C++, Java, Algorithms and Foundations of Computer Science, ECDL European Patent.
July, 2011 - October, 2015	**Software Developer**, *Freelance.*
September, 2010 - January, 2011	**Software developer** - **JAVA**, *Consiglio Nazionale delle Ricerche (CNR), CNR Catania (Italy)*, Subject: "A Java Parser from RDF and DOC to TEI/XML and DC/XML format for legal sources" (Certificate).
2004 - 2011	**Freelance Computer Technician.**

▬▬▬▬ Education

November, 2015- October, 2018	**Scholarshipped Ph.D. Student in Mathematics and Computer Science**, *Department of Mathematics and Computer Science, University of Catania, Italy. Thesis title: Automated Reasoning via a Multi-sorted Fragment of Computable Set Theory with Applications to Semantic Web. Topics: Theoretical Computer Science, Algorithm Engineering, Computational Logic, Knowledge Representation and Reasoning, Semantic Web, Ontology. Supervisors, Prof. Domenico Cantone, and Prof. Marianna Nicolosi Asmundo*
July 25, 2014	**Laurea Magistrale in Informatica, Dipartimento di Matematica e Informatica, Università Degli Studi di Catania (Master of Science in Computer Science, Department of Mathematics and Computer Science, University of Catania), Italy. Final Mark: 110/110 Summa Cum Laude** Title: "A Semantic Web Ontology for Ceramics Cataloguing and a Set-Theoretical Representation for OWL 2 Profiles". Supervisors: Prof. Marianna Nicolosi Asmundo, Prof. Francesca Trapani. (Abstract). Published as "A Set-Theoretical Representation For OWL 2 Profiles With Application on Ancient Ceramics Classification", LAP LAMBERT Academic Publishing, ISBN 978-3-659-68797-6, 2015.
March 31, 2011	**Laurea Primo Livello in Informatica, Dipartimento di Matematica e Informatica, Università degli Studi di Catania (First-Level Degree in Computer Science, Department of Mathematics and Computer Science, University of Catania), Italy**, Title: "Linguaggi del Semantic Web e Applicazione per la Catalogazione di Reperti Archeologici" (Semantic Web Languages and Application for Archaeological Findings Cataloguing). Supervisor: Prof. Marianna Nicolosi Asmundo.
July 12, 2005	**Licenza Scuola Media Superiore (High School Certification)**, *Liceo Classico V. Linares, Licata (AG), Italy*, Mark: 100/100.

Formation

September, 2009   **IBM MainFrame Certification**, *Department of Mathematics and Computer Science, University of Catania.*
(Certificate).

24-26 June, 2020   **RW 2020 - 16th Reasoning Web Summer School**, Virtual
(Certificate)

22-26 September, 2018   **RW 2018 - 14th Reasoning Web Summer School**, Luxembourg (Lux).
(Certificate)

25-30 July, 2016   **18th European Agent Systems Summer School - EASSS 2016**, *Department of Mathematics and Computer Science, University of Catania, Italy.*
(Certificate)

28-30 June, 2015   **Workshop on 3D Printing**, *HackSpace Catania, Catania, Italy.*
(Certificate)

June 29 - July 1, 2015   **School of Computational Logic**, *DIBRIS, Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (Department of Informatics, Bioengineering, Robotics and Systems Engineering), University of Genova*, Genova, Italy. Organized by GULP for CILC 2015. Topic: Prolog, Constraint Logic Programming, Answer Set Programing, Declarative Agent Languages and Technologies, Parallelism in Logic Programming, Interval Temporal Logics.
(Certificate)

November, 2013   **48 Hours of Professional Training Course for Programmers**, *Department of Mathematics and Computer Science, University of Catania*, Topics: Java fundamentals and principles of Design Patterns, SVN and team work, Eclipse IDE, Mysql, Junit and Jmock, software testing, Tomcat and Application Server, Scrum and Agile Programming, Code Documentation, Change management, Software Documentation.

July, 2013   **Computer Forensics Certification**, *Department of Mathematics and Computer Science, University of Catania*, Mark: 30/30 cum laude

July, 2011   **NVIDIA Cuda GPGPU Programming Certification**, *Department of Mathematics and Computer Science, University of Catania*, Mark: 30/30.
(Certificate).

Teachings

2024–Today   **Programmazione II e Laboratorio - Modulo di Laboratorio (3CFU)**, *Course of Programmazione II e Laboratorio - Modulo di Laboratorio (Canale F-N) (3 CFU) (Programming II and Laboratory - Module of Laboratory)*, Department of Mathematics and Computer Science, University of Catania, Bachelor Degree in Computer Science (24 hours).

2024-Today **Programmazione II e Laboratorio - Modulo di Laboratorio (3CFU)**, *Course of Programmazione II e Laboratorio - Modulo di Laboratorio (Canale O-Z) (3 CFU) (Programming II and Laboratory - Module of Laboratory)*, Department of Mathematics and Computer Science, University of Catania, Bachelor Degree in Computer Science (24 hours).

2022-Today **Introduzione alla Linguistica Computazionale e Laboratorio (Modulo A) (6 CFU)**, *Introduction to Computational Linguistic and Laboratory (Module A)*, Department of Humanities, University of Catania, Master of Science in Textual Studies for Digital Professions (36 hours).

2020 **Tutorship on Informatica I**, *Tutorship for the Course of Informatica I, Department of Mathematics and Computer Science, University of Catania, Bachelor Degree in Mathematics (20 hours)*.

2020-2023 **Algoritmi e Laboratorio - Modulo di Laboratorio (3CFU)**, *Course of Algoritmi e Laboratorio - Modulo di Laboratorio (Canale A-L) (3 CFU) (Algorithms and Laboratory - Module of Laboratory)*, Department of Mathematics and Computer Science, University of Catania, Bachelor Degree in Computer Science (24 hours).

2020-2023 **Algoritmi e Laboratorio - Modulo di Laboratorio (3CFU)**, *Course of Algoritmi e Laboratorio - Modulo di Laboratorio (Canale M-Z) (3 CFU) (Algorithms and Laboratory - Module of Laboratory) at Department of Mathematics and Computer Science, University of Catania, Bachelor Degree in Computer Science (24 hours)*.

Lectures

19 April, 2024 **Invited lecture on "Semantic Web in Archaeology"**, Department of Ancient Sciences, University of Rome La Sapienza, National Ph.D. in Heritage Science (3 hours).

18 April, 2024 **Invited lecture on "Introduction to Databases and Databases in Archaeology"**, Department of Ancient Sciences, University of Rome La Sapienza, National Ph.D. in Heritage Science (3 hours).

15 May, 2023 **Invited lecture on "Semantic Annotation for Cultural Heritage Studies"**, University of Naples Federico II, Ph.D. in Archaeology and Art History.

19 April, 2023 **Invited Talk on "A Semantic Approach for Modeling II Millenium BCE Polytheisms in the Eastern Mediterranean"**, *International Workshop "Godscapes: Modeling II millennium BCE polytheisms in the Eastern Mediterranean", Catania, Italy.*

15 March, 2023 **Invited lecture on "Semantic Web in Archaeology"**, Department of Ancient Sciences, University of Rome La Sapienza, National Ph.D. in Heritage Science (3 hours).

14 March, 2023 **Invited lecture on "Introduction to Databases and Databases in Archaeology"**, Department of Ancient Sciences, University of Rome La Sapienza, National Ph.D. in Heritage Science (3 hours).

16 February, 2023	**Invited lecture on "Introduction to Databases and Databases in Archaeology"**, Department of Humanities, University of Catania, Graduate School in Archaeology (3 hours).
8,15,22 March, 2021	**Invited lectures "Strumenti per la modellazione, la rappresentazione e l'interrogazione di ontologie informatiche per i beni culturali" (Tools for modelling, representing, and querying ontologies for Cultural Heritage)**, Department of Human Sciences, University of Catania (18 hours).
November 29, 2018	**Invited Lecture on "The Recursive Method"**, *Course of Programming I at Department of Mathematics and Computer Science, University of Catania, Bachelor Degree in Computer Science (3 hours).*
from 2017 to 2020	**Invited Lecture on "From Ideas to Ontologies"**, *Course of Web Reasoning at Department of Mathematics and Computer Science, University of Catania, Master of Science in Computer Science (9 hours).*
January 29, 2014	**Invited Lecture on "Semantic Web Languages, Foundations and Tools. An application on archaeological findings cataloguing: Archeontology"**, *Course of Computational Logic at Department of Mathematics and Computer Science, University of Catania, Master of Science in Computer Science (3 hours).*

Publications

[j10] **Giampaolo Bella, Domenico Cantone, Marianna Nicolosi Asmundo, and Daniele Francesco Santamaria**, *Towards a Semantic Blockchain: a Behaviouristic Approach To Modelling Ethereum*, To app. to Applied Ontology.

[j9] **Giampaolo Bella, Domenico Cantone, Gianpietro Castiglione, Marianna Nicolosi Asmundo, and Daniele Francesco Santamaria**, *A Behaviouristic Semantic Approach to Blockchain-based E-Commerce*, To app. to Semantic Web Journal.

[j8] **Carmelo Fabio Longo, Paolo Marco Riela, Daniele Francesco Santamaria, Corrado Santoro and Antonio Lieto**, *A Framework for Cognitive Chatbots based on Abductive-Deductive Inference*, Cognitive Systems Research, Vol. 88, pp. 64-79, 2023. DOI: 10.1016/j.cogsys.2023.05.002.

[j7] **Giampaolo Bella, Domenico Cantone, Carmelo Fabio Longo, Marianna Nicolosi-Asmundo, and Daniele Francesco Santamaria**, *The Ontology for Agents, Systems and Integration of Services: OASIS version 2*, Intelligenza Artificiale, vol. 17, no. 1, pp. 51-62, 2023. DOI: 10.3233/IA-230002.

[j6] **Carmelo Fabio Longo, Corrado Santoro, Marianna Nicolosi-Asmundo, Domenico Cantone and Daniele Francesco Santamaria, *Towards Ontological Interoperability of Cognitive IoT Agents Based on Natural Language Processing***, In R. Calegari, G. Ciatto, A. Omicini and G. Vizzari, Intelligenza Artificiale Vol. 16, Issue 1, Special Issue for the 22nd Workshop From Objects to Agents (WOA 2021), 1 Jan. 2022, pp. 178–193. DOI: 10.3233/IA-220141.

[j5] **Claudia Cantale, Domenico Cantone, Manuela Lupica Rinato, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria, Maria Rossella Stufano Melone,** *The Ideal Benedictine Monastery: From the Saint Gall Map to Ontologies*, Applied Ontology, Vol. 16, Issue 2 (2021), pp. 137–160. DOI: 10.3233/AO-210248.

[j4] **Domenico Cantone, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria,** *An improved set-based reasoner for the description logic $\mathcal{DL}_{\mathrm{D}}^{4,\times}$*, Fundamenta Informaticae Vol. 178, Issue 4, (2021), pp. 315–346. DOI: 10.3233/FI-2021-2009.

[j3] **Domenico Cantone, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria,** *A set-theoretic approach to reasoning services for the description logic $\mathcal{DL}_{\mathrm{D}}^{4,\times}$*, Fundamenta Informaticae, Vol. 176, Issue 3-4, (2020) pp. 349–384. DOI: 10.3233/FI-2020-1977

[j2] **Domenico Cantone, Salvatore Cristofaro, Marianna Nicolosi-Asmundo, Francesca Prado, Daniele Francesco Santamaria, Daria Spampinato,** *An EPIDOC Ontological Perspective: the Epigraphs of the Castello Ursino Civic Museum of Catania via CIDOC CRM*, Archeologia e Calcolatori, Vol. 30, pp. 139–157, 2019. ISBN 9788878149212. e-ISBN 9788878149229.

[j1] **Claudia Cantale, Domenico Cantone, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria,** *Distant Reading Through Ontologies: The Case Study of Catania's Benedictines Monastery*, Italian Journal of Library, Archives, and Information Science, JLIS, 8-3, pp. 203-219 (September 2017. DOI: 10.4403/jlis.it-12342.) (Proc. Page)

Mentioned by *Almanacco Bibliografico - Bollettino trimestrale di informazione sulla storia del libro e delle biblioteche in Italia*, December 2017, n. 44, pp. 18, 044-044. Università Cattolica del Sacro Cuore (Brescia)

[c25] **Carmelo Fabio Longo, Daniele Francesco Santamaria, Misael Mongiovì, Luana Bulla and Emilio Sanfilippo.** *Leveraging Knowledge Graphs inference for Semi-Explainable Systems based on Large Language Models*, To app. to proceedings of FOIS 2024.

[c24] **Giampaolo Bella, Domenico Cantone, Gianpietro Castiglione, Marianna Nicolosi-Asmundo and Daniele Francesco Santamaria.** *A Meta-Ontological Approach to Securing the Semantic Web Data*, To app. to proceedings of FOIS 2024.

[c23] **Simone De Martino, Marianna Nicolosi-Asmundo, Stefano Angelo Rizzo and Daniele Francesco Santamaria.** *Modeling the video game environment: the VideOWL ontology*, In: Proceedings of WOA 2023: 24th Workshop From Objects to Agents WOA 2023, 6-8 November 2023, Rome, Italy, CEUR Workshop Proceedings, ISSN 1613-0073, Vol. 3579, pp. 191–205.

[c22] **Domenico Cantone, Daniele Francesco Santamaria, Vincenzo Spinello. *A tool to easing the configuration and deploying process of Hyperledger Fabric***, *In: B4TDS - 3rd International Workshop on Blockchain for Trusted Data Sharing, September 15, 2023, Ascoli Piceno, Italy, CEUR Workshop Proceedings, ISSN 1613-0073, Vol. 3514, pp. 224-234.*

[c21] **Giampaolo Bella, Gianpietro Castiglione, Daniele Francesco Santamaria, *An automated method for the ontological representation of security directives***, *In:Proceedings of the Joint Ontology Workshops 2023, Episode IX: The Quebec Summer of Ontology, co-located with the 13th International Conference on Formal Ontology in Information Systems (FOIS 2023), Sherbrooke, Québec, Canada, July 19–20, 2023, CEUR Workshop Proceedings, ISSN 1613-0073, vol. 3637, pp 1–17.*

[c20] **Gianpietro Castiglione, Daniele Francesco Santamaria and Giampaolo Bella, *An ontological approach to compliance verification of the NIS 2 directive***, *In:Proceedings of the Joint Ontology Workshops 2023, Episode IX: The Quebec Summer of Ontology, co-located with the 13th International Conference on Formal Ontology in Information Systems (FOIS 2023), Sherbrooke, Québec, Canada, July 19–20, 2023, CEUR Workshop Proceedings, ISSN 1613-0073, vol. 3637, pp 1–12.*

[c19] **Giampaolo Bella, Gianpietro Castiglione, Daniele Francesco Santamaria, *A behaviouristic approach to representing processes and procedures in the OASIS 2 ontology***, *In:Proceedings of the Joint Ontology Workshops 2023, Episode IX: The Quebec Summer of Ontology, co-located with the 13th International Conference on Formal Ontology in Information Systems (FOIS 2023), Sherbrooke, Québec, Canada, July 19–20, 2023, CEUR Workshop Proceedings, ISSN 1613-0073, vol. 3637, pp 1–17.*

[c18] **Gianpietro Castiglione, Giampaolo Bella, Daniele Francesco Santamaria, *Towards Grammatical Tagging for the Legal Language of Cybersecurity***, *Proceedings of the 18th International Conference on Availability, Reliability and Security, August 2023 (ARES 23), N. 82, pp. 1-9. DOI 10.1145/3600160.3605069.*

[c17] **Giampaolo Bella, Domenico Cantone, Marianna Nicolosi-Asmundo and Daniele Francesco Santamaria, *The Ontology for Agents, Systems and Integration of Services: recent advancements of OASIS***, *In:Proceedings of WOA 2022- 23nd Workshop From Objects to Agents, 1–2, September 2022, Genova, Italy, CEUR Workshop Proceedings, ISSN 1613-0073, Vol. 3261, pp.176–193.*

[c16] **Giampaolo Bella, Domenico Cantone, Cristiano Longo, Marianna Nicolosi-Asmundo and Daniele Francesco Santamaria, *Blockchains through ontologies: the case study of the Ethereum ERC721 standard in OASIS***, *In D. Camacho et al. (eds.), Intelligent Distributed Computing XIV, Studies in Computational Intelligence 1026, Chapter 23, pp. 249–259, 2022. DOI: 10.1007/978-3-030-96627-0.*

[c15] **Giampaolo Bella, Domenico Cantone, Cristiano Longo, Marianna Nicolosi-Asmundo and Daniele Francesco Santamaria, *Semantic Representation as a Key Enabler for Blockchain-Based Commerce***, *In: K. Tserpes et al. (Eds.): GECON 2021, Lecture Note in Computer Science, Vol. 13072, pp. 191–198, Springer, 2021. DOI: 10.1007/978-3-030-92916-9.*

[c14] **Carmelo Fabio Longo, Corrado Santoro, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria and Domenico Cantone, *SW-CASPAR: Reactive-Cognitive Architecture based on Natural Language Processing for the task of Decision-Making in the Open-World Assumption***, *In: Proceedings of WOA 2021- 22nd Workshop From Objects to Agents, 1–3, September 2021, Bologna, Italy, CEUR Workshop Proceedings, ISSN 1613-0073, Vol. 2963, pp. 178–193.*

[c13] **Domenico Cantone, Carmelo Fabio Longo, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria, Corrado Santoro, *Ontological Smart Contracts in OASIS: Ontology forAgents, Systems, and Integration of Services***, *In D. Camacho et al. (eds.), Intelligent Distributed Computing XIV, Studies in Computational Intelligence 1026, Chapter 22, pp. 237–247. DOI: 10.1007/978-3-030-96627-0.*

[c12] **Domenico Cantone, Carmelo Fabio Longo, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria, Corrado Santoro, *Towards an Ontology-Based Framework for a Behavior-Oriented Integration of the IoT***, *In: Proceedings of the 20th Workshop From Objects to Agents, 26-28 June, 2019, Parma, Italy, CEUR Workshop Proceedings, ISSN 1613-0073, Vol. 2404, pp. 119–126*
(Proc. Page)

[c11] **Roldolfo Brancato, Marianna Nicolosi-Asmundo, Grazia Pagano, Daniele Francesco Santamaria, Salvatore Ucchino, *An Ontology for Legacy Data on Ancient Ceramics of the Plain of Catania***, *In: Proceedings of the 34th Italian Conference on Computational Logic, CILC 2019, 19-21 June 2019, Trieste, Italy, CEUR Workshop Proceedings, ISSN 1613-0073, Vol. 2396, pp. 59–67*
(Proc. Page)

[c10] **Roldolfo Brancato, Marianna Nicolosi-Asmundo, Grazia Pagano, Daniele Francesco Santamaria, Salvatore Ucchino, *Towards an Ontology for Investigating on Archaeological Sicilian Landscapes***, *In: Carlo Meghini, Antonella Poggi (eds.), Proceedings of the First International Workshop on Open Data and Ontologies for Cultural Heritage, ODOCH 2019, Rome, Italy, 3 June 2019, CEUR Workshop Proceedings, ISSN 1613-0073, Vol. 2375, pp. 85–90*
(Proc. Page)

[c9] **Domenico Cantone, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria, *An optimized KE-tableau-based system for reasoning in the description logic $\mathcal{DL}_{\mathrm{D}}^{4,\times}$***, *In Benzmüller, C., Ricca, F., Parent, X., Roman, D. (Eds.) Rules and Reasoning, Second International Joint Conference, RuleML+RR 2018, Luxembourg, September 18–21, 2018, Lecture Notes in Computer Science, Vol. 11092, pp. 239–247. Springer ISBN 978-3-319-99905-0, (2018). DOI: 10.1007/978-3-319-99906-7*
(Proc. Page)

[c8] **Domenico Cantone, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria, *A set-based reasoner for the description logic $\mathcal{DL}_{\mathrm{D}}^{4,\times}$***, Proceedings of the 3rd International Workshop About Sets and Tools, SETS 2018, Southampton, United Kingdom, 5 June 2018, CEUR Workshop Proceedings, ISSN 1613-0073, Vol. 2199, pp. 52-66
(Proc. Page)

[c7] **Claudia Cantale, Domenico Cantone, Manuela Lupica Rinato, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria, *The Shape of a Benedictine Monastery: The SaintGall Ontology***, Proceedings of the third Joint Ontology Workshops, JOWO 2017, SHAPE 4.0, Bolzano, Italy, 21-23 September 2017, CEUR Workshop Proceedings, ISSN 1613-0073, Vol. 2050, Paper 2
(Proc. Page)

[c6] **Domenico Cantone, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria, *A C++ reasoner for the description logic $\mathcal{DL}_{\mathrm{D}}^{4,\times}$***, Proceedings of the 32nd Italian Conference on Computational Logic, CILC 2017, 26-28 September 2017, Naples, Italy, CEUR Workshop Proceedings, ISSN 1613-0073, Vol. 1949, pp. 276-280
(Proc. Page)

[c5] **Domenico Cantone, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria, *A set-theoretic approach to ABox reasoning services***, *In Costantini S., Franconi E., Van Woensel W., Kontchakov R., Sadri F., Roman D. (eds) Rules and Reasoning, RuleML+RR 2017. Lecture Notes in Computer Science, Vol. 10364, pp. 87–102. Springer, Cham (2017). DOI: 10.1007/978-3-319-61252-2.*
(Proc. Page)

[c4] **Domenico Cantone, Andrea Fornaia, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria and Emiliano Tramontana, *An OWL framework for rule-based recognition of places in Italian non-structured text***, *Proceedings of the 2nd International Workshop on Knowledge Discovery on the Web, KDWEB 2016, Cagliari, Italy, September 8-10, 2016, CEUR Workshop Proceedings, ISSN 1613-0073, Vol. 1748, Section I, Paper 8*
(Proc. Page)

[c3] **Domenico Cantone, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria, *Conjunctive Query Answering via Fragment of Set Theory***, *Proceedings of the 17th Italian Conference on Theoretical Computer Science, ICTCS 2016, Lecce, Italy, September 7-9, 2016, CEUR Workshop Proceedings, ISSN 1613-0073, Vol. 1720, pp. 23-35*
(Proc. Page)

[c2] **Domenico Cantone, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria, Francesca Trapani, *OntoCeramic: an OWL ontology for ceramics classification***, *Proceedings of the 30th Italian Conference on Computational Logic, CILC 2015, Genova, Italy, July 1-3, 2015, CEUR Workshop Proceedings, ISSN 1613-0073, Vol. 1459, pp. 122-127*
(Proc. Page).

[c1] **Domenico Cantone, Cristiano Longo, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria, *Web ontology representation and reasoning via fragments of set theory***, *In Cate B., Mileo A. (eds) Web Reasoning and Rule Systems, RR 2015. Lecture Notes in Computer Science, Vol. 9209, pp. 61–76. Springer, Cham (2015). DOI: 10.1007/978-3-319-22002-4.*
(Proc. Page).

[b2]   **Daniele Francesco Santamaria, *Automated Reasoning via Multi-Sorted Fragment of Computable Set Theory With Applications to Semantic Web***, *LAP LAMBERT Academic Publishing, ISBN 978-620-6-14609-4, 2022*
(Shop Page).

[b1]   **Daniele Francesco Santamaria, *A Set-Theoretical Representation For OWL 2 Profiles With Application on Ancient Ceramics Classification***, *LAP LAMBERT Academic Publishing, ISBN 978-3-659-68797-6, 2015*
(Shop Page).

[i7]   **Gianpietro Castiglione, Marianna Nicolosi-Asmundo and Daniele Francesco Santamaria, *Reification in OWL for Data Tenancy and Beyond***, *Lighting talk for Modular Knowledge 2023 - 2nd Workshop on Modular Knowledge, colocated with FOIS 2023, Sherbrooke, Quebec, Canada, July 17-20, 2023.*
(Web Site)

[i6]   **Rodolfo Brancato, Marianna Figuera, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria, Paola Venuti, Giuseppe Zappala, *CoMOntology. Towards An Ontology for the Chronology of Mediterranean archaeologies: a model for the digital memory***, *Poster for AIUCD 2023 - La memoria digitale Forme del testo e organizzazione della conoscenza, Siena, June, 5-7, 2023.*

[i5]   **Nicola Laneri, Rodolfo Brancato, Salvatore Cristofaro, Marianna Figuera, Marianna Nicolosi Asmundo, Daniele Francesco Santamaria, Daria Spampinato, *Towards an ontology of the museum of archaeology of the University of Catania (MAUC): from the digitization of the legacy data to the Semantic Web***, *In J. Bogdani et al. (eds.), ARCHEO.FOSS XIV 2020 - Open software, hardware, processes, data and formats in archaeological research, Archaeopress Publishing Ltd, Oxford, ISBN 9781803271248, pp. 128–137. DOI: https://doi.org/10.5281/zenodo.8147795.*
(Proc. Page)

[i4]   **Claudia Cantale and Daniele Francesco Santamaria, *I Benedettini: un modello di rappresentazione delle informazioni per un modello di riuso dei beni architettonici***, *Quinto Convegno Annuale dell' Associazione per l'Informatica Umanistica e la Cultura Digitale, AIUCD 2016, Venice, Italy, 7-9 September, 2016*
(Abstract, Poster)

[i3]   **Domenico Cantone, Andrea Fornaia, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria, Emiliano Tramontana, *An ontological approach for locations recognition from Italian non-structured text***, *Open Knowledge Open Art, OKOA 2016, Catania, Italy, February 26-27, 2016*
(Abstract)

[i2]   **Domenico Cantone, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria, Francesca Trapani, *An ontology for ceramics cataloguing***, *43rd Computer Applications and Quantitative Methods in Archaeology, CAA 2015, Siena, Italy, March 30 - April 3, 2015*
(Abstract).

[i1] **Domenico Cantone, Cristiano Longo, Marianna Nicolosi-Asmundo, Daniele Francesco Santamaria,** *An ontology for ceramics cataloguing and related reasoning tasks*, *Workshop of the XIII AI*IA Symposium on Artificial Intelligence, RCRA 2014, Pisa, Italy, December 10-12 2014*
(Conference Page)

▬▬▬ Projects

2024 **PI, MASS - A Meta-ontological Approach to Securing the Semantic Web, for the Research Program PIAno di inCEntivi per la Ricerca di Ateneo 2020/2022 — Linea di Intervento 3 "Starting Grant" - University of Catania.**
(Web Site)

2024 **Team Member, PECS - Privacy Enrooted Car Systems, for Next Generation of Internet (NGI) - Trustchain**
Web Site

2022 **Team Member, BUAP - Baghdad Urban Archaeological Project**
(WebSite)

2022 **Coordination Unit Member, PRIN 2020 (prot. 20204N3WCX) Godscapes: Modeling Second Millennium BCE Polytheisms in the Eastern Mediterranean. CUP: B73C22000830006**
(WebSite)

2020 **Co-PI, POC4COMMERCE for Next Generation of Internet (NGI) - ONTOCHAIN - A new software ecosystem for trusted, traceable and transparent ontological knowledge - first open call**
(ONTOCHAIN Web Site Page)
On Press: UNICT, FocuSicilia, CronacaOggiQuotidiano

▬▬▬ Conference Speaker

19 December, 2023 **Invited Speaker, The 2023 Workshop on Security Frameworks -WSF23,** *Securing data in the Semantic Web: the tenancy matter*
(Web Site)

20 July, 2023 **Speaker for the lighting talk for Modular Knowledge 2023 - 2nd Workshop on Modular Knowledge, colocated with FOIS 2023, Sherbrooke, Quebec, Canada, July 17-20, 2023,** *[i7]*
(Web Site)

19 April, 2023 **Invited Speaker, Godscapes: Modeling Second Millennium BCE Polytheisms in the Eastern Mediterranean",** *Catania, Italy*
(Web Site)

2 September, 2022 **23rd Workshop "From Objects to Agents" (WOA22), Genova, Italy,** *[c18]*.
(Web Site)

22 September, 2021 **Invited Speaker, European Blockchain Week 2021, Ljubljana, Slovenia,** *Semantic web and Blockchain - The POC4COMMERCE Project.*
(Web Site)

17 September, 2021 **The 14th International Symposium on Intelligent Distributed Computing (IDC 2021),** *[c17],[c13]*.

26-28 June, 2019	**20th Workshop From Objects to Agents - WOA 2020, Parma, Italy**, *[c12]*. (Slides, Certificate of Attendance)
September 17-26, 2018	**LuxLogAI- Luxembourg Logic for AI Summit, Luxembourg City, Luxembourg**, *[c9]*. (Certificate of Attendance)
June 5, 2018	**3rd International Workshop about Sets and Tools - SETS 18, Southampton, United Kingdom**, *[c8]*. (Slides, Certificate of Attendance)
May 11, 2018	**SWTHS 2018 - Semantic Web Tools for Human and Social Sciences Conference, Catania, Italy**, *Web Ontologies for Cultural Heritage and their validation via a set-theory based reasoner.* (Web Site, Slides)
September 26-28,2017	**32nd Italian Conference on Computational Logic, CILC 2017, Naples, Italy**, *[c5]*. (Slides, Certificate of Attendance)
July 12-15,2017	**RuleML+RR 2017: International Joint Conference on Rules and Reasoning, London, UK**, *[c5]*. (Slides, Certificate of Attendance)
September 8-10, 2016	**2nd International Workshop on Knowledge Discovery on the Web, KDWEB 2016, Cagliari, Italy**, *[c4]*. (Slides, Certificate of Attendance)
February 26-27, 2016	**2nd Open Knowledge - Open Arts Workshop, Catania, Italy**, *[i3]*. (Slides, Certificate of Attendance).
July 1-3, 2015	**30° Convegno Italiano di Logica Computazionale, (30th Italian Conference in Computational Logic), CILC 2015, Genova, Italy**, *[c1,c2]*. ([c1] Slides, [c2] slides, Certificate of Attendance).
March 30 - April 3, 2015	**43rd Computer Applications and Quantitative Methods in Archaeology (CAA) 2015, Siena, Italy**, *[i2]*. (Poster Presentation, Certificate of Attendance).

Supervising of (Selected) Thesis and Stages

2022	**Bachelor Degree Thesis**, A Tool for Automating the Instantiation Process of the Hyperledger Fabric Network, Vincenzo Spinello, Bachelor's Degree in Computer Science, Department of Mathematics and Computer Science, University of Catania, Italy, published in [c22].
2022	**Stage**, *The Hyperledger Fabric Network, Vincenzo Spinello, Bachelor's Degree in Computer Science, Department of Mathematics and Computer Science, University of Catania, Italy*, published in [c22].

2022 **Master of Science Degree Thesis (Co-supervisor)**, Cyber risk e semantica: caratterizzazione ontologica di direttive di sicurezza (Cyber risk and semantics: ontological characterisation of security risk directives), Giampietro Castiglione, Master of Science in Computer Science, Department of Mathematics and Computer Science, University of Catania, Italy, published in [c18].

▬▬▬ Other Activities

2024 **Reviewer**, *CILC 2024: 39th Italian Conference on Computational Logic.*

2024 **Program Committee Member**, *ECAI-2024 - 27th European Conference on Artificial Intelligence)*

2024 **Journal Editorial Board Member**, *Intelligenza Artificiale.*

2024 **Journal Editorial Board Member**, *Applied Ontology.*

2024 **Reviewer**, *Journal of Biomedical Semantics, BioMed Central Ltd, Springer Nature.*

2024 **Chair and Organizer**, *Semantic Shields - International Workshop on Modeling for Cyber-Security, Workshop for the 10th Joint Ontology Workshops (FOIS) 2024.*
(Link)

2023 **Reviewer**, *SWODCH 2023 -Semantic Web and Ontology Design for Cultural Heritage.*

2023 **Program Committee Member**, *SWODCH 2023 - Semantic Web and Ontology Design for Cultural Heritage.*

2023 **Reviewer**, *CILC 2023: 38th Italian Conference on Computational Logic.*

2023 **Reviewer**, *Planning and Ontology Workshop 2023 (PLATO).*

2023 **Project Reviewer**, *LE STUDIUM Loire Valley Institute for Advanced Studies.*

2023 **Program Committee Member**, *PLATO 2023: Planning and Ontology Workshop, ICAPS 2023, Prague, Czechia, July 9-10, 2023.*

2023 **Reviewer**, *ICLP 2023: International Conference on Logic Programming.*

2022 **Reviewer**, *Blockchain: Research and Applications, an Elsevier Journal.*

2022 **Reviewer**, *ACM Journal on Computing and Cultural Heritage (JOCCH).*

2022 **Reviewer**, *ADBIS 2022 - Workshop on Semantic Web and Ontology Design for Cultural Heritage.*

2022	**Technical Program Committee Member**, *Blockchain Security and Scalability Workshop 2022, in conjunction with the IEEE Blockchain 2022 Conference.* (Link)
2022	**Reviewer**, *IEEE International Symposium on Industrial Electronics 2022 (by IEEE).*
2021	**Session Chair**, *Special session on blockchains, The 14th International Symposium on Intelligent Distributed Computing, (IDC), September 16-18, 2021, on-line, Italy.* (Link)
2020	**Chair and Organizer**, *Special Track on Semantic Web for the Internet of Agents (SWIA), The 14th International Symposium on Intelligent Distributed Computing, (IDC), September 21-23, 2020, Scilla, Reggio Calabria, Italy.* (Link)
2020	**Reviewer**, *Semantic Web Journal (by IOS Press).*
2020	**Reviewer**, *International Joint Conference on Artificial Intelligence.*
2019	**Reviewer**, *Convegno Italiano di Logica Computazionale - CILC.*
May 11, 2018	**Organizing Committee Member**, *SWTHS 2018 - Semantic Web Tools for Human and Social Sciences Conference, Catania, Italy.* (Web Site)
2017-today	**Redaction office member**, *Synergheion - International Journal of Greek Studies, Languages, Cultures, Societies.* (Web Site)
July 12-15, 2017	**Session Chair**, *RuleML-RR 2017 - International Joint Conference on Rules and Reasoning 2017,*London, UK. (Web Site)
September 14-16, 2016	**Organizing Committee Member**, *GandALF 2016 - The Seventh International Symposium on Games, Automata, Logics and Formal Verification,*Catania, Italy. (Web Site, Certificate of Attendance)
July 29-30, 2016	**Organizing Committee Member and Chair**, *Workshop From Objects To Agents - WOA 2016,* Catania, Italy. (Web Site)
July 25-30, 2016	**Organizing Committee Member**, *EASSS 2016 - The 18th European Agent Systems Summer School 2016,* Catania, Italy. (Web Site)
February 26-27, 2016	**Organizing Committee Member and Chair**, *OKOA16 - 2nd Open Knowledge - Open Arts Workshop,* Catania, Italy. (Web Site)

▬▬▬▬ ## Compentences and Skills

Programming Languanges and tools	**Java (including Java EE, SpringBoot, JPA, Log4J, JUnit, Thymeleaf), C, C++, Python, Nvidia Cuda, PHP, HTML, XML, XHTML, CSS, Javascript (including BootStrap, JQuery), C#, Prolog, Erlang, Semantic Web languages (RDF, RDFs, OWL, SPARQL), several semantic web tools and libraries (Protegé, Fluent Editor, OWL-API, RDFLib, etc.) and platforms (Apache Jena, Apache STANBOL), LateX, SQL, Maven, SVN, GIT and other** *Source Code Control Tools*, **Microsoft Powershell, Solidity, Wordpress**
Development Environments	**Visual Studio, NetBeans, Eclipse, Protégé, PhpMyAdmin, MySQL Workbench, Edraw Max and other Software Design Application, Hypervisors such as VMWare, VirtualBox, Microsoft Hyper-V, Latex development environment such as TeXStudio and Overleaf.**
Operating Systems	**Microsoft Windows, Linux (any distribution)**
Other	**PhotoShop, AutoDesk 123D Design, Easy Chair Platform**
Competences	**Semantic Web, Computational Logic, Software Engineering, Algorithm Engineering, Software Architecture, Distributed Systems, Pattern Recognition and Artificial Intelligence, Computer Forensics, High Performance Computing, Blockchain. Computer technician skills (hardware/software). Competence in any software required for the European Patent.**

Additional Information

2017-2018	**Ph.D. students representative**, *Deparment of Mathematics and Computer Science, University of Catania*, Catania. (D.R. del 24 Maggio 2017, n. 1819)

Languages

Italian	Mother Tongue
English	Good

Short Bio

Daniele Francesco Santamaria is Assistant Professor at the Department of Mathematics and Computer Science of the University of Catania.

He held a post-doctoral position for four years at the University of Catania, three years at the Department of Mathematics and Computer Science, and one year at the Department of Human Sciences. He also held the position of contract professor for four years, and of research scholarship for one year at the University of Catania. Moreover, he worked as an IT consultant for some small enterprises.

Daniele obtained his Ph.D. in Mathematics and Computer Science in 2019 with a work on a framework based on Computable Set Theory for reasoning with Semantic Web ontologies, focusing both on the theoretical aspects, including the engineering of the calculus and the related algorithms, and on the practical aspects, including knowledge base representation, reasoning, and management and software development. He also engineered and developed several computational ontologies for many knowledge domains, ranging from human and

social sciences, including architecture and archaeology, to blockchain, cybersecurity, video games, and the theory of agents. Daniele publishes in many international journals and conferences and is involved in editorial activities with different roles such as reviewer, program committee member, editorial board member, and organizer. At the time of writing, he co-authored more than thirty works among workshop papers and journal articles. He holds a certification for Nvidia Cuda programming, IBM Mainframe, and Computer Forensics.

During his career, Daniele joined two international projects founded by the **Next Generation of Internet** (NGI) consortium, namely, **POC4COMMERCE** - in the ambit of the **ONTOCHAIN** initiative, and **PECS - Privacy Enrooted Car Systems** - in the ambit of the **Trustchain** initiative. He also joined an Italian national project **Progetti di Rilevante Interesse Nazionale** (PRIN) dedicated to ontological approaches in archaeology, called **Godscapes**.

He is current PI for the project MASS - A Meta-ontological Approach to Securing the Semantic Web, funded by the University of Catania.

Daniele's research interest includes not only all the theoretical and practical aspects of knowledge engineering and management, in particular in the ambit of Semantic Web ontologies, but also computational logic, algorithm engineering, and theory and practice of blockchain technologies.

▬▬ Authorizations

Use of the Curriculum **General Use**

Authorization (ITA) **Il sottoscritto esprime il consenso affinchè i dati personali forniti possano essere trattati, nel rispetto del D. Lgs.196/2003, per le finalità di selezione del personale e di gestione del rapporto instaurato. Il sottoscritto conferma di essere informato dei propri diritti in accordo con l'articolo 7 del decreto menzionato**

Authorization (ENG) **In compliance with the Italian Legislative Decree no. 196 dated 30/06/2003, I hereby authorize the recipient of this document to use and process my personal details for the purpose of recruiting and selecting staff and I confirm to be informed of my rights in accordance to art. 7 of the above mentioned decree**

Catania, June 5, 2024