

Enrico Russo - Curriculum Vitae

Department of Informatics, Bioengineering, Robotics and Systems Engineering -
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Google Scholar: <https://scholar.google.com/citations?user=m5z-FIQAAAAJ>

Summary

Current Position: Fixed-term Assistant Professor (RTDa) at the Department of Informatics, Bioengineering, Robotics and Systems Engineering - DIBRIS (IINF-05/A - Sistemi di elaborazione delle informazioni).

Research Interests: Cyber range systems, Maritime cybersecurity, Cyber-Physical Systems security, Network security.

Professional Experience

[2021 -] Fixed-term Assistant Professor (RTDa), DIBRIS, University of Genoa.

[2017 - 2020] PhD. Student, DIBRIS, University of Genoa, Italy

Visiting PhD Student

[IMT19] Systems Security Modelling and Analysis (SySMA), IMT - School for Advanced Studies, Lucca, Italia, da Maggio 2019 to Maggio 2020. Invitee: Prof. Gabriele Costa, Research Unit SySMA

Education

[Jan. 2021] PhD in Computer Science, DIBRIS, University of Genoa, Titolo della tesi: “On the Design and Implementation of Next Generation Cyber Ranges” (online: <https://hdl.handle.net/11567/1035459>). Advisors: Prof. Alessandro Armando (DIBRIS, University of Genoa), Prof. Gabriele Costa (SysMA Unit, IMT School for Advanced Studies Lucca, Italy)

[Mar. 2017] Second-Level Master’s Degree in Cybersecurity and Data Protection, 110/110 cum laude, University of Genoa, Italy.

[Feb. 2002] Bachelor's Degree in Computer Science, 106/110, DISI, University of Genoa, Italy

Publications

International Journals

[J15] M. Guerar, M. Migliardi, **E. Russo**, D. Khadraoui, A. Merlo. SSI-MedRx: A Fraud-Resilient Healthcare System based on Blockchain and SSI. Blockchain: Research and Applications. In Press. doi: <https://doi.org/10.1016/j.bcra.2024.100242>.

[J14] G. Longo, A. Cantelli-Forti, **E. Russo**, F. Lupia, M. Strohmeier, A. Pugliese. Collective victim counting in post-disaster response: A distributed, power-efficient algorithm via BLE spontaneous networks. Pervasive and Mobile Computing. 2025, Volume 106, 101997. doi: <https://doi.org/10.1016/j.pmcj.2024.101997>

[J13] F. Pagano, L. Verderame, **E. Russo**, A. Merlo. MarvelHideDroid: Reliable on-the-fly data anonymization based on Android virtualization. Computers and Electrical Engineering, 2025, Volume 121, 109882. doi: <https://doi.org/10.1016/j.compeleceng.2024.109882>

[J12] G. Longo, F. Lupia, A. Merlo, F. Pagano, **E. Russo**. A data anonymization methodology for security operations centers: Balancing data protection and security in industrial systems. Information Sciences, 2025, 690, 121534. doi: <https://doi.org/10.1016/j.ins.2024.121534>

[J11] F. Lupia, **E. Russo**, G.Longo, A. Pugliese. Discovering congestion dynamics models in clinical pathways using background knowledge. Journal of Computational Science, 2024, 80, 102322. doi: [10.1016/j.jocs.2024.102322](https://doi.org/10.1016/j.jocs.2024.102322)

[J10] G. Longo, F. Lupia, A. Pugliese, **E. Russo**. Physics-aware targeted attacks against maritime industrial control systems. Journal of Information Security and Applications, 2024, 82, 103724. doi: [10.1016/j.jisa.2024.103724](https://doi.org/10.1016/j.jisa.2024.103724)

[J9] G. Longo, M. Martelli, **E. Russo**, A. Merlo, R. Zaccone. Adversarial waypoint injection attacks on Maritime Autonomous Surface Ships (MASS) collision avoidance systems. Journal of Marine Engineering and Technology, 2024, 23(3), pp. 184–195. doi: [10.1080/20464177.2023.2298521](https://doi.org/10.1080/20464177.2023.2298521)

[J8] **E. Russo**, G. Costa, G. Longo, A. Armando, A. Merlo. LiDiTE: A Full-Fledged and Featherweight Digital Twin Framework. IEEE Transactions on Dependable and Secure Computing, 2023, 20(6), pp. 4899–4912. doi: [10.1109/TDSC.2023.3236798](https://doi.org/10.1109/TDSC.2023.3236798)

[J7] G. Longo, A. Orlich, S. Musante, A. Merlo, **E. Russo**. MaCySTe: A virtual testbed for maritime cybersecurity. SoftwareX, 2023, 23, 101426. doi: [10.1016/j.softx.2023.101426](https://doi.org/10.1016/j.softx.2023.101426)

[J6] G. Longo, A. Orlich, A. Merlo, **E. Russo**. Enabling Real-Time Remote Monitoring of Ships by Lossless Protocol Transformations. IEEE Transactions on Intelligent Transportation Systems, 2023, 24(7), pp. 7285–7295. doi: [10.1109/TITS.2023.3258365](https://doi.org/10.1109/TITS.2023.3258365)

[J5] G. Longo, **E. Russo**, A. Armando, A. Merlo. Attacking (and Defending) the Maritime Radar System. IEEE Transactions on Information Forensics and Security, 2023, 18, pp. 3575–3589. doi: [10.1109/TIFS.2023.3282132](https://doi.org/10.1109/TIFS.2023.3282132)

[J4] G. Costa, E. Russo, A. Armando. Automating the Generation of Cyber Range Virtual Scenarios with VSDL. Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications, 2022, 13(4), pp. 61–80. doi: [10.58346/JOWUA.2022.14.004](https://doi.org/10.58346/JOWUA.2022.14.004)

[J3] G. Roascio, G. Costa, E. Baccelli, L. Malina, R. MATULEVIČIUS, M. Momeu, N. MORKEVIČIUS, **E. Russo**, B. STOJANOVIĆ, A. Tasidou. HARMoNICS: High-Assurance Microgrid Network Infrastructure Case Study. IEEE Access, 2022, 10, pp. 115372–115383. doi: [10.1109/ACCESS.2022.3218412](https://doi.org/10.1109/ACCESS.2022.3218412)

[J2] **E. Russo**, L. Verderame, A. Armando, A. Merlo. DIOXIN: runtime security policy enforcement of fog applications. International Journal of Grid and Utility Computing, 2021, 12(2), pp. 126–138. doi: [10.1504/IJGUC.2021.114821](https://doi.org/10.1504/IJGUC.2021.114821)

[J1] **E. Russo**, G. Costa, A. Armando. Building next generation Cyber Ranges with CRACK. Computers and Security, 2020, 95, 101837. doi: [10.1016/j.cose.2020.101837](https://doi.org/10.1016/j.cose.2020.101837)

International Conference Proceedings

[C14] G. Longo, M. Strohmeier, **E. Russo**, A. Merlo, V. Lenders. 2024. On a Collision Course: Unveiling Wireless Attacks to the Aircraft Traffic Collision Avoidance System (TCAS). In Proceeding of the 33rd Usenix Security Symposium (USENIX 2024). online: <https://www.usenix.org/conference/usenixsecurity24/presentation/longo>

[C13] A. Cantelli-Forti, G. Longo and **E. Russo**. Work-In-Progress: Consistent and Tamper-Proof Acquisition of Automatically Verifiable Forensic Web Evidence. In Proceedings of the IEEE European Symposium on Security and Privacy Workshops (EuroS&PW) 2024. doi: to appear (online: <https://osvs.pages.dev/program>)

[C12] G. Longo, F. Lupia, A. Pugliese, **E. Russo**. Attacking Maritime Control Systems Through Process Mining. In Proceeding of the 32nd Symposium On Advanced Database Systems. online: <https://ceur-ws.org/Vol-3741/paper18.pdf>

- [C11] **E. Russo**, M. Ribaudò, A. Orlich, G. Longo, and A. Armando. 2023. Cyber Range and Cyber Defense Exercises: Gamification Meets University Students. In Proceedings of the 2nd International Workshop on Gamification in Software Development, Verification, and Validation (Gamify 2023). doi: [10.1145/3617553.3617888](https://doi.org/10.1145/3617553.3617888)
- [C10] G. Longo, A. Merlo, A. Armando, **E. Russo**. Electronic Attacks as a Cyber False Flag against Maritime Radars Systems. In 2023 IEEE 48th Conference on Local Computer Networks (LCN), Daytona Beach, FL, USA, 2023 pp. 1-6. doi: [10.1109/LCN58197.2023.10223370](https://doi.org/10.1109/LCN58197.2023.10223370)
- [C9] **E. Russo**, G. Longo, M. Guerar, A. Merlo. Cloud-Native Application Security Training and Testing with Cyber Ranges. In: Bravo, J., Urzáiz, G. (eds) Proceedings of the 15th International Conference on Ubiquitous Computing & Ambient Intelligence (UCAmI 2023). UCAmI 2023. Lecture Notes in Networks and Systems, vol 841. Springer, Cham. doi: [10.1007/978-3-031-48590-9_20](https://doi.org/10.1007/978-3-031-48590-9_20)
- [C8] G. Longo, M. Martelli, **E. Russo**, R. Zaccone. Collision-avoidance Capabilities Reduction After a Cyber-Attack to the Navigation Sensors. In Proceedings of the Ship Control Systems Symposium (iSCSS) 2022. doi: [10.24868/10729](https://doi.org/10.24868/10729)
- [C7] M. Raimondi, G. Longo, A. Merlo, A. Armando, **E. Russo**. Training the Maritime Security Operations Centre Teams. In Proceeding of IEEE International Conference on Cyber Security and Resilience (CSR), Rhodes, Greece, 2022, pp. 388-393, doi: [10.1109/CSR54599.2022.9850324](https://doi.org/10.1109/CSR54599.2022.9850324)
- [C6] G. Costa, **E. Russo**, A. Valenza. Damn-vulnerable Application Scanner. In Proceedings of the Italian Conference of Cybersecurity (ITASEC) 2021. CEUR Workshop Proceedings, 2021, 2940, pp. 424–435. online: <https://ceur-ws.org/Vol-2940/paper36.pdf>
- [C5] **E. Russo**, L. Verderame, A. Merlo. Enabling Next-Generation Cyber Ranges with Mobile Security Components. In Proceedings of the International Conference on Testing Software and Systems (ICTSS) 2020. Lecture Notes in Computer Science, vol 12543. Springer, Cham. doi: [10.1007/978-3-030-64881-7_10](https://doi.org/10.1007/978-3-030-64881-7_10)
- [C4] **E. Russo**, L. Verderame, A. Merlo. Towards Policy-Driven Monitoring of Fog Applications. In Proceedings of the IEEE 28th International Conference on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE), Napoli, Italy, 2019, pp. 93-97, doi: [10.1109/WETICE.2019.00026](https://doi.org/10.1109/WETICE.2019.00026)
- [C3] L. Demetrio, G. Lagorio, M. Ribaudò, **E. Russo**, A. Valenza. ZenHackAdemy: Ethical Hacking @ DIBRIS. In Proceedings of the 11th International Conference on Computer Supported Education - Volume 1: CSEDU, 405-413, 2019, Heraklion, Crete, Greece. doi: [10.5220/0007747104050413](https://doi.org/10.5220/0007747104050413)
- [C2] **E. Russo**, G. Costa, A. Armando. Scenario Design and Validation for Next Generation Cyber Ranges. In Proceedings of the IEEE 17th International Symposium on Network Computing and Applications (NCA), Cambridge, MA, USA, 2018, pp. 1-4, doi: [10.1109/NCA.2018.8548324](https://doi.org/10.1109/NCA.2018.8548324)

[C1] A. G. Bruzzone, R. Di Matteo, M. Massei, **E. Russo**, M. Cantilli, K. Sinelshchikov. Interoperable Simulation and Serious Games for creating an Open Cyber Range. In Proceedings of the 7th International Defense and Homeland Security Simulation Workshop, DHSS 2017, Held at the International Multidisciplinary Modeling and Simulation Multiconference, I3M 2017, 2017, pp. 90–97. online: http://www.msc-les.org/proceedings/dhss/2017/DHSS2017_90.pdf

Patents

[P1] **E. Russo**, A. Armando, A. Merlo, G. Longo. Method and System for Detecting Anomalies in a RADAR System On Board Of a Ship. WIPO Patent n. WO2024009332, 2024. Reference: [Patentscope](#), [Google Patents](#)

Invited Talks and Seminars

[CLOUDSEC2024] Talk at “5G and Cloud Security Awareness Days,” SERICS Foundation. Title: “ARTIC Framework: A Cloud-Native Solution for Cybersecurity Training and Testing.” June 20, 2024.

[ATENA2023] Invited Talk at ATENA (Italian Association of Naval Engineering). Title: “Shipboard Cybersecurity.” June 28, 2023.

[OPENLAB2022] Invited Talk at “UNIGE OpenLab: Introduction to Research Infrastructures in the Region,” University of Genoa. Title: “SHIL Project - Ship-In-the-Loop: The Use of Cyber Ranges in the Maritime Context.” May 12, 2022.

[NECS2022] NeCS Winter PhD School, Trento, Italy. Lecture Title: “Securing the Lifecycle of Intelligent Infrastructures with the SPARTA HAIL Toolkit.” (Duration: 2 hours). January 21, 2022.

[FINCANTIERI2021] Seminar and live demonstration of the UNIGE “Maritime Cyber Range” prototype at Fincantieri Ephors SpA, attended by CEO Giuseppe Bono, Rome. June 11, 2021.

[NTNU2020] Invited Talk at the S2G Security Seminar on Cyber Ranges, Norwegian University of Science and Technology. Title: “On the Design and Implementation of Next Generation Cyber Ranges.” December 11, 2020.

Funded Projects

[2024 - 2026] [Federated Advanced Cyber physical Test range \(FACT\)](#). EU funded project - European Defence Fund (EDF) program, Cybersecurity and systems for improved resilience (EDF-2022-DA-CYBER-CSIR). Role: Unit Coordinator for UNIGE. Total Funding: €26,896,682. University of Genoa (UNIGE) Funding: €231,000.

[2023 - 2025] [Affordable, Reusable and Truly Interoperable Cyber ranges \(ARTIC\)](#) Project, EU funded project - NextGenEU, in the frame of the Piano Nazionale di Ripresa e Resilienza, SERICS Foundation, Spoke 4, Operating Systems Security. Role: Principal Investigator. Total Funding: € 3,284,000. UNIGE Funding: € 321,000.

[2023 - 2025] [GEneralized Real-time On-line National Internet MOnitoring Infrastructure \(GERONIMO\)](#) Project, EU funded project - NextGenEU, in the frame of the Piano Nazionale di Ripresa e Resilienza, SERICS Foundation, Spoke 4, Operating Systems Security (PI: [Francesco Palmieri](#), Università di Salerno). Role: Work Package leader. Total Funding: € 912.000. UNIGE Funding: € 60.000.

[2022 - 2025] [Safe Navigation \(SAFENAV\)](#), EU funded project - program HORIZON, Safe, Resilient Transport and Smart Mobility services for passengers and goods (HORIZON-CL5-2022-D6-01). Role: Task leader (PI: [Michele Martelli](#), University of Genoa). Total Funding: €4,424,871.63. DIBRIS Funding: €35,000.

[2022 - 2024] Peer to peer architectures for energy markets: towards distributed solutions and digital twin environments, University of Genoa Research Funds (Seed Funds). Role: Co-PI. Total Project Funding: € 35.000.

[2022 - 2023] “Energy management systems: Distributed optimization and control on Edge nodes for smart grids” funded by Silicon Valley Community Foundation (SVCF) in collaboration with Cisco Research (2022-2023). Role: Participant for UNIGE (PI: [Michela Robba](#), University of Genoa). Total Funding: € 100.000.

[2020 - 2023] Leonardo-UNIGE Scholarship Project: Advanced Training in Cybersecurity for Students in Information Science Degrees at the University of Genoa. Role: Responsible for final exercises on UNIGE/Leonardo Cyber Range (Project Lead: [Alessandro Armando](#), University of Genoa).

[2019 - 2022] SPARTA Project, H2020 Project, Call H2020-SU-ICT-2018-2, Grant. nr. 830892. Role: Participant for CINI (Consorzio Interuniversitario Nazionale per l'Informatica). CINI Funding: € 625.000.

[2017 - 2020] Boeing-UNIGE Scholarship Project: A Cybersecurity Contest for Bachelor and Master Students of the University of Genoa. Role: Participant in setup and content creation of hands-on activities (Project Lead: [Alessandro Armando](#), University of Genoa).

[2017 - 2019] UNAVOX (National Cyber Range), National Military Research Plan (PNRM), prot. M_D GTEL 0016737 04.09.2017. Role: Participant for UNIGE (PI: [Alessandro Armando](#), University of Genoa). UNIGE Funding: € 314.700.

Services to the profession

Member of Research and Teaching Committees and Third Mission activities

[2024 -] Member of the Steering Committee for the “Second-Level Master’s Degree in Artificial Intelligence” and for the courses “Database Design and Management,” “Basic Programming,” “Oracle Administration,” “XML Language,” “PHP Programming,” “Python Programming,” “Software and Web Development Technologies (ASP.NET),” and “Artificial Intelligence.” Telecommunication School for the Italian Armed Forces (Stelmilit), Chiavari, Italy.

[2021 -] Member of the Steering Committee for the "Cyber" courses developed as part of the training program funded by the Telecommunication School for the Italian Armed Forces (Stelmilit), Chiavari, Italy.

[2021 -] [Member of the Steering Committee](#) for the Second-Level Master’s Degree in Cybersecurity and Critical Infrastructure Protection, University of Genoa, Italy.

Other Committees and Services

[2024 -] [CapTech non-Governmental Expert \(CnGE\)](#) - National Research Representative appointed by the Italian Ministry of Defense for relations with the European Defense Agency (EDA) in the [CapTech \(CAPabilities TECHnologies\) Simulation Technologies](#) working group.

[LS2019] Member of the Italian Blue Team in the NATO Locked Shields cyber defense exercise. Rome, 2019.

[LS2018] Member of the Italian Blue Team in the NATO Locked Shields cyber defense exercise. Rome, 2018.

Chair

[OSVS2024] PC Co-Chair - Workshop on Operating Systems and Virtualization Security co-located with l’IEEE European Symposium on Security and Privacy 2024, Vienna, July 12, 2024, Austria - <https://osvs.pages.dev/>

[CYBERRANGEIT2021] PC Co-Chair - Workshop on Cyber Ranges (CyberRange.it) co-located with the Italian Conference on Cybersecurity (ITASEC21) - <https://2021.itasec.it/workshops/cyberrange-it/>

TPC member

[ITASEC2025] Italian Conference on Cybersecurity - ITASEC25, Bologna, Italy, 3-8 February 2025 - <https://itasec.it/st-program-committee-members/>

[ITASEC2024] Italian Conference on Cybersecurity - ITASEC24, Salerno, Italy, 8-12 April 2024 - <https://itasec.it/st-program-committee-members/>

[CLOUDC2023] 14th IEEE International Conference on Cloud Computing Technology and Science - CloudComm, Napoli, Italy, 4-6 December 2023 - <https://parsec2.unicampania.it/cloudcom2023/committees.html>

Teaching Activities

(2021 -) Assistant Professor, DIBRIS, University of Genoa

Course	Teaching Assignment	ECTS	from (AY)	to (AY)
Master's Degree in Computer Engineering	Virtualization and Cloud Computing	6	2021-2022	
Master's Degree in Computer Science	Digital Forensics	2	2023-2024	
Master's Degree in Maritime Economics and Management	Eu Transport Infrastructures, Multimodality, Interconnection, Sustainability and Technology Jean Monnet Module	0.5	2023-2024	
Second-Level Master's in Cybersecurity and Critical Infrastructure Protection	Network Security	1	2021-2022	
Second-Level Master's in Cybersecurity and Critical Infrastructure Protection	Cloud Security	1	2021-2022	
PhD program in Security, Risk, and Vulnerability	Virtualization and Containers	3	2024-2025	

(2010 -) Lecturer, Telecommunication School for the Italian Armed Forces, Chiavari, Italy

Course	Teaching Assignment	ECTS	from (AY)	to (AY)
Advanced Course in Network	Network fundamentals, tools, and traffic analysis	3	2021-2022	

Forensics				
Master's Degree in Cyber Defence Governance	Information Systems and Cyberspace	1	2020/2021	2020/2021
Master's Degree in Cyber Security and Data Protection	Information Systems	1	2018/2019	2018/2019
Master's Degree in Digital Forensics and Cyber Technologies	Application protocols and Internet-based services	1	2017/2018	2017/2018
Advanced Administration of Unix/Linux Systems	Authentication techniques, LDAP, Kerberos, and virtualization	2	2010/2011	2012/2013
Second-Level Specialists in Telematics Networks	Linux and SNMP monitoring	1	2010/2011	2010/2011

(2019 - 2021) Teaching assistant, DIBRIS, University of Genoa, Italy

Course	Teaching Assignment	ECTS	from (AY)	to (AY)
Master's Degree in Computer Engineering	Virtualization and Cloud Computing	6	2019-2020	2020-2021

(2019 – 2020) Lecturer, RINA Academy, Genoa, Italy

Course	Teaching Assignment	ECTS	from (AY)	to (AY)
Software Programmer and Developer (Cybersecurity for Tourism)	Networking (mod. 1 – Web Programming)	4	2019/2020	2019/2020

(2019 – 2020) Lecturer, Xelon Sinergetica – Associazione C.F.P. “E. Fassicomo”, Genoa, Italy

Course	Teaching Assignment	ECTS	from (AY)	to (AY)
Software Programmer and Developer	Information Systems Security	1	2019/2020	2019/2020

(2014 – 2015) Lecturer, Fondazione ITS-ICT, Genoa, Italy

Course	Teaching Assignment	ECTS	from (AY)	to (AY)
Advanced Technician	Mod. 25A - Advanced Computer Architectures	2	2014/2015	2014/2015
Advanced Technician	Mod. 22.2 – Virtualization	3	2014/2015	2014/2015

Supervision

Funded Research Grants and Scholarships

- I funded a total amount of 2-year research grants (assegni di ricerca) to two different people among postdocs, and collaborators.
- I also funded a total amount of 2-year scholarships to two master and post-master students to support my research activity.

PhD. Supervision

[2022 - 2024] Mostafavi Sabzevari Arman. PhD program in Security, Risk, and Vulnerability (XXXVII Cycle) Track: CYBERSECURITY AND RELIABLE ARTIFICIAL INTELLIGENCE. University of Genoa e aizoOn SpA, Genoa. Research topic: Risk and vulnerability assessment.

[2021 - 2024] Giacomo Longo. National Ph.D. Program in Artificial Intelligence (XXXVI Cycle), University of Roma Sapienza, Rome. Research topic: Cybersecurity in transportation systems, Systems security.

[2020 - 2023] Marco Raimondi. PhD program in Security, Risk, and Vulnerability (XXXV Cycle) Track: CYBERSECURITY AND RELIABLE ARTIFICIAL INTELLIGENCE. University of Genoa, Italy. Research topic: Maritime Cybersecurity.

Master Theses Supervision

[2020 -] Advisor of 22 M.Eng. Theses, course of Computer Engineering and Computer Science, DIBRIS, University of Genoa, Italy

Bachelor Theses Supervision

[2023 -] Advisor of 2 B.Eng. Theses, course of Computer Engineering and Computer Science, DIBRIS, University of Genoa, Italy