

PERSONAL INFORMATION	Enrico Silva	
	📍 Università Roma Tre, DIEM, Via Vito Volterra 62, 00195 Roma, Italy	
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	✉ enrico.silva@uniroma3.it	
CURRENT POSITION SSD (if applicable)	Full professor IMIS-01/B (ex ING-INF/07)	
RESEARCH TOPICS / EXPERIENCES	<ul style="list-style-type: none"> ■ Instrumentation and measurement methods ■ Cryogenics ■ Electronics for detectors for space applications ■ Microwave resonators ■ Wideband radiofrequency and microwave measurements ■ Microwave superconductivity ■ Superconducting multilayers and heterostructures ■ Microwave techniques for characterization of materials ■ Surface impedance measurements ■ Superconductors for energy applications ■ Vortex motion in superconductors 	
SCIENTIFIC / TECHNICAL QUALIFICATION (source: Scopus)	■ H-index:	■ 23
	■ No. publications:	■ > 170 on peer reviewed journals
	■ No. citations:	■ > 2100

EDUCATION AND TRAINING

1994/09/14	PhD in “Applied Electromagnetism and Electrophysical Sciences”, University “La Sapienza”, Rome, Italy
1990/02/22	Laurea degree in Physics (4 years), University “La Sapienza”, Rome, Italy
1983/07	Classical Lyceum diploma, Liceo “T. Mamiani”, Rome, Italy

WORK EXPERIENCE

since 2016/11/01	Full professor of Electrical and Electronic Measurements (ING-INF/07)
	Dept. of Industrial, Electrical and mechanical Engineering (previously at Dept. of Engineering), University Roma Tre, Roma, Italy
2014	Visiting professor
	Instituto Superior de Engenharia de Lisboa (Portogallo)
From 2012/11/26 To 2012/12/21	Invited professor
	Université Pierre et Marie Curie – UPMC (Paris VI), Paris, France
From 2001/11/01 To 2016/10/31	Associate professor of Experimental Physics (FIS/01)
	Dept. of Engineering (previously at Faculty of Engineering, Dept. of Physics), University Roma Tre, Roma, Italy

From 1994/10/31 To 2001/10/31	Research associate (“Ricercatore universitario”) in Structure of the Matter (B03X)
	Dept. of Physics, Faculty of Engineering, University Roma Tre, Roma, Italy
1993-1994	Postdoc Study Grants
	INFM (National Institute for the Physics of the Matter), unit of La Sapienza University, Rome, Italy

MAIN ROLES AND RESPONSIBILITIES

Since 2023	■ Roma Tre Coordinator of Spoke 1-Rome Technopole, “Applied research, technological development, innovation”
Since 2022	■ Deputy Department Head for Research Activities
2021-2023	■ ASN (Italian Scientific Qualification for the role of Associate or Full Professor): Member of the National Committee, Sector 09/E4
2020-2021	■ Person in charge at University Roma Tre for the joint PhD programs Regione Lazio – University Roma Tre
2020	■ ASN (Italian Scientific Qualification for the role of Associate or Full Professor): Substitute Member of the National Committee, Sector 09/E4
2018	■ Coordinator of the Master and Bachelor programmes in Electronics, University Roma Tre
2017-2022	■ Coordinator of the PhD program in Applied Electronics, University Roma Tre
Since 2017	■ GMEE – Electrical and Electronic Measurements Group. Roma Tre Unit head.
Since 01/01/2025	■ Treasurer of the IEEE Italy Chapter of the Council on Superconductivity
Nov. 2014-31/12/2024	■ Chair of the IEEE Italy Chapter of the Council on Superconductivity
Since 2024	■ Head of the Laboratory “Electrical, Electronic and Magnetic Measurements – EIMeas”, Dept. of Industrial, Electronic and Mechanical Engineering, University Roma Tre
2012-2024	■ Head of the Laboratory “Electricodynamics of the Matter”, Dept. of Industrial, Electrical and Mechanical Engineering (previously at Department of Engineering), University Roma Tre
2001-2012	■ Head of the Laboratory “Superconductivity and Microwaves”, Dept. of Physics, University Roma Tre
Since 2005	■ Member of over 25 Committees for: <ul style="list-style-type: none"> • Full Professor (09/E4) • Associate professor (09/E4, INGF-INF/07) • Permanent Researcher (B03X) • Research Associate – RTDa, RTDb (FIS/01, FIS/03, ING-INF/07) • Postdoc (ING-INF/07, ING-INF/02, FIS/01, FIS/03, FIS/07, ING-IND/31) • PhD final exam (Turin Polytechnic, Liege University, Kharkiv, Sapienza, Roma Tre) • PhD Admission (Roma Tre University)
Since 2006	■ Scientific advisor for >5 postdocs (“Assegni di ricerca”) and 3 Research associates (“RTD/RTDa”) ■ Advisor for 6 PhD students

SERVICE TO NATIONAL AND INTERNATIONAL COMMUNITY

Since 2024	■ IEC, member of TC-90
2014	■ Founder of the IEEE Italy Chapter of the Council on Superconductivity
Since 2015	■ IEEE – CSC (Council on Superconductivity), AdCom member
2015-2024	■ IEEE – Italy Section, AdCom member

TEACHING EXPERIENCE

From a.y. 2017/2018 To a.y. 2020/2021	■ <i>Elements of Electrical and Electronic Measurements</i> , 6 CFU, Bachelor level (“Laurea”), University Roma Tre
a.y. 2016/7	■ <i>Elements of Electronic Measurements</i> , 6 CFU, Bachelor level (“Laurea”), University Roma Tre
Since a.y. 2016/2017	■ <i>Solid State Measuring Devices</i> , 9 CFU, Master level (“Laurea Magistrale”), University Roma Tre
Since a.y. 2016/2017	■ <i>Experimental Superconductivity</i> , 6 CFU, Master level (“Laurea Magistrale”), University Roma Tre
Since a.y. 2014/2015	■ <i>Applied Superconductivity</i> , PhD level, University Roma Tre [in English]
From 2014/12/4 To 2014/12/9	■ Erasmus course “ <i>Electrodynamics of Superconductors</i> ”, ISEL–Instituto Superior de Engenharia de Lisboa, Portugal [in English]
From 2012/11/26 To 2012/12/21	■ <i>Superconductivity</i> , Nanomat International Master, Université Pierre et Marie Curie, Paris, France [in English]
From a.y. 2008/2009 To a.y. 2015/2016	■ <i>Physics of the Matter</i> , 9 CFU, Master level (“Laurea Magistrale”), University Roma Tre
From a.y. 2008/2009 To a.y. 2011/2012	■ <i>Sensor Physics</i> , 9 CFU, Master level (“Laurea Magistrale”), University Roma Tre
From a.y. 2006/2007 To a.y. 2012/2013	■ <i>Quantum Systems for Computer Science</i> , 6 CFU, Master level (“Laurea Magistrale”), University Roma Tre
From a.y. 2012/2013 To a.y. 2015/2016	■ <i>Superconductivity with Applications</i> , 6 CFU, Master level (“Laurea Magistrale”), University Roma Tre
From a.y. 2008/2009 To a.y. 2015/2016	■ <i>Physics, Module II</i> , 6 CFU, Bachelor level (“Laurea”), University Roma Tre
From a.y. 2001/2002 To a.y. 2007/2008	■ <i>Electricity and Magnetism</i> , 5/6 CFU, Bachelor level (“Laurea”), University Roma Tre, a total of 17 courses given for different Engineering courses
From a.y. 1999/2000 To a.y. 2001/2002	■ <i>Physics I – module 2</i> , 50 h, Bachelor level (“Laurea”), University Roma Tre
From a.y. 1998/1999 To a.y. 2000/2001	■ <i>Physics II – module 1</i> , 50 h, Bachelor level (“Laurea”), University Roma Tre
1998	■ Summer School Leonardo da Vinci “ <i>Superconducting Materials: Advances in Technology and Applications</i> ”, Bologna, Italy, lectures on “ <i>Microwave surface resistance measurements in high-T_c superconductors in a magnetic field</i> ” [in English]
1995	■ National School INFM/CINS, lectures on <i>Fluxon dynamics, Anisotropy, Microwave absorption in a magnetic field</i> [in English]

MAIN COORDINATION ROLES IN RESEARCH

01/01/2024-31/21/2025	<ul style="list-style-type: none"> ■ Eurofusion WP32 “Enabling Research” Project CfP-FSD-AWP24-ENR-04-ENEA-03 “irOn-based supeRconducting wlres for fusiON (ORION)”, Roma Tre Unit head, total project financing 977 k€
From 2022/01/01 To 2024/12/31	<ul style="list-style-type: none"> ■ INFN project “Superconducting Alternative Materials for Accelerating cavities and haloscope Resonators for Axions”, Laboratory head, total project financing 158.5 k€
From 2022/01/01 To 2024/12/31	<ul style="list-style-type: none"> ■ PON project “Measurements of the performances of materials for renewable energies”, Principal Investigator, ~145 k€
Since 2021/03/01	<ul style="list-style-type: none"> ■ CERN – MOU ADDENDUM FCC-GOV-CC-0218 (KE5084/ATS), High field surface impedance measurements in superconductors, Laboratory head, Roma Tre project financing 91 k€
From 2020/10/08 To 2024/10/07	<ul style="list-style-type: none"> ■ COST action CA1908 – High-Temperature SuperConductivity for AcceLerating the Energy Transition (https://hi-scale.eu), EU, participant
From 2019/08/19 To 2023/02/18	<ul style="list-style-type: none"> ■ PRIN 2017 – High performance-low cost Iron BaSed Coated condUctorS for high field magnets – HIBiSCUS, Research Unit head, total project financing 714 k€
From 2019/01/01 To 2021/06/30	<ul style="list-style-type: none"> ■ Eurofusion – H2020 WP32 “Enabling Research” Project WPENR – ENR-MFE19. ENEA-04 “Nano-engineered REBCO Superconducting Tapes for High Fields Applications”, Roma Tre Unit head, total project financing 619 k€
From 2017/12/15 To 2018/09/30	<ul style="list-style-type: none"> ■ Research Contract SGM LEKTRA – Milan Polytechnic – Roma Tre University “A Measuring Instrument at Microwaves for Level Measurements”, Roma Tre head, total project financing 61 k€
From 2015/01/01 To 2017/12/31	<ul style="list-style-type: none"> ■ Eurofusion – H2020 WP32 Enabling Research Project AWP15-ENR-01/ENEA-08 “Unexplored magnetic vortex regimes relevant for fusion applications of superconductors”, Roma Tre Unit head, total project financing 1069 k€
Main projects before 2015	<ul style="list-style-type: none"> ■ since 2014 EUROfusion – H2020 WP EDU “Educational”, Roma Tre head ■ 2011-2013 Regione Lazio project “Ottimizzazione di processi per materiali ceramici a basse perdite per componenti aerospaziali per telecomunicazioni.”, Principal Investigator, 129 k€ ■ 2010-2013 FIRB “SUperconductors for Renewable Energy:” All chemical-Route To YBCO Superconducting Tapes”, Laboratory head ■ 2009-2015 EURATOM “Reducing losses in advanced superconducting materials”, Roma Tre group head ■ 2007 PRIN, Research Unit Head ■ 2007 ENEA Research Contract, Principal Investigator ■ 2007/08 Be-It scientific cooperation, Italian Coordinator ■ 2005 ENEA Research Contract, Principal Investigator ■ 2003/04 Be-It scientific cooperation, Italian Coordinator ■ 2002-2006 FIRB “Strutture semiconduttore/superconduttore per l'elettronica integrata”, Research Unit head ■ 2001/02 Be-It scientific cooperation, Italian Coordinator

Main collaborations	<p><i>Only ongoing collaborations are listed.</i></p> <ul style="list-style-type: none"> ■ INAF-IAPS, dr. Sergio Fabiani and dr. Paolo Soffitta, Electronics and calibrations of APD-based X-ray polarimeters for space ■ CERN, dr. Sergio Calatroni, Surface Impedance of HTCS for FCC ■ ICAS Srl - Innovation and Consulting on Applied Superconductivity, Frascati, Italy, Superconductors for energy applications ■ Sapienza University, DIET, prof. Emanuele Piuze, Microwave measurements in dielectrics ■ Messina University, prof. Nicola Donato, Measurements of microwave permittivity of technological substrates for microwave resonators ■ INFN-LNL, dr. Cristian Pira, Microwave properties of Nb-based alloys ■ INFN-LNF, dr. Claudio Gatti, Superconducting cavities for Axion Search ■ ICMAB-Barcelona, prof. Teresa Puig, Transport properties of coated conductors ■ FERMILAB, USA, dr. Sam Posen, Measurements of the surface impedance of Nb₃Sn in high magnetic fields ■ ENEA – Frascati, dr. Giuseppe Celentano, Measurements of pinning strength in YBCO and Fe based superconductors ■ CNR-SPIN, Genoa, dr. Valeria Braccini, Fe based superconductors for high-field electrical transport applications ■ Genoa University, Dept. Physics, prof. Marina Putti, Vortex motion in Fe-based superconductors ■ Sapienza University, Dept. of Physics, dr. Stefano Sarti, Quantum properties of Superconductor/Ferromagnet heterostructures ■ Turin Polytechnic, prof. Gianluca Ghigo, Microwave measurements in FeSeTe
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OTHER RELEVANT EXPERIENCES

(2026)	■ General Chair, 2026 WoLTE - Workshop on Low Temperature Electronics, Italy
2025	■ Electronics Chair, EUCAS 2025 – European Conference on Applied Superconductivity, Porto, Portugal, 2025
2023	■ General chair, HTS-HFF 2023 High Temperature Superconductors in High Frequency Fields conference, Italy
2021	■ Reviewer for the Italian National Agency for the Evaluation of the Quality of the Research (ANVUR)
2021	■ Reviewer for Italian-French University project.
2021	■ Treasurer, 2021 WoLTE - Workshop on Low Temperature Electronics, Italy
2020	■ Co-chair, IBS2APP - Iron Based Superconductors: advances toward Applications, Italy
2020	■ Guest Editor, Superconductor Science and Technology, Special issue "Focus on Iron-Based Superconductors 2020: Advances Towards Applications"
2017	■ Chair, Workshop on Perspectives for superconducting materials and cables for future fusion applications, Roma, Italy
2017	■ Technical Editor, IEEE Transactions on Applied Superconductivity, Special Issue for EUCAS 2017 (~500 papers)

Since 2013	■ Editorial Board, Member, ACTA IMEKO (Journal of the International Measurement Confederation)
2012	■ Reviewer for the Agence Nationale de la Recherche (French National Research Agency)
Since 1992	■ Reviewer for >20 prominent international journals. Among them: Nature, Phys. Rev. Lett., Phys. Rev. B, IEEE Trans. Instrum. Meas., Supercond. Sci. Technol., Appl. Phys. Lett., Measurement, Meas. Sci. Technol., IEEE Trans. Appl. Supercond.

HONOURS, AWARDS, MEMBERSHIPS, OTHER QUALIFICATIONS

Since 2021/06/09	■ INFN – National Institute of Nuclear Physics, associate
Since 2017	■ IEEE – Institute of Electrical and Electronics Engineers. Senior member
2018	■ II National Measurement Forum, Sept. 17-19 2018, Padova, Best Poster. Authors: K. Torokhtii, A. Alimenti, N. Pompeo, F. Leccese. F. Orsini, A. Scorza, S.A. Sciuto, E. Silva
Since 2017	■ ESAS – European Society for Applied Superconductivity. Member.
2014-2017	■ IEEE – Institute of Electrical and Electronics Engineers. Member
Since 2014	■ IEEE – Instrumentation and Measurement Society. Member
Since 2014	■ IEEE – Council on Superconductivity – CSC. Member
Since 2014	■ IEEE – Microwave Theory and Techniques – MTT. Member
Since 2013	■ GMEE – Gruppo Misura Elettriche e Elettroniche. Member
2006-2017	■ IOP – Institute of Physics, membership
Since 1997	■ > 20 invited lectures
Since 1996	■ 5 book chapters coauthored (3 invited)
Since 1990	■ > 80 presentations at International conferences and workshops

JOURNAL PUBLICATIONS

Last 5 years

- A. Alimenti, et al., *Design and Test of a Calibration System for Avalanche Photodiodes Used in X-Ray Compton Polarimeters for Space*, Sensors 24, 8016 (2024)
- G. Marconato, et al., *NbTi Thin-Film SRF Cavities for Dark Matter Search*, IEEE Trans. Appl. Supercond. 34, 600706 (2024)
- A. Alimenti, et al., *Design and Test of a New Dielectric-Loaded Resonator for the Accurate Characterization of Conductive and Dielectric Materials*, Sensors 23 518 (2023)
- P. Vidal García, et al., *Effect of Molybdenum Coatings on the Accelerating Cavity Quality Factor*, Instruments 7, 33 (2023)
- K. Torokhtii, et al., *Concept and preliminary design of dielectric resonator for anisotropic measurement of the surface impedance*, Acta IMEKO 12 (2023)
- G. Ghigo, et al., *Vortex dynamics in NbTi films at high frequency and high DC magnetic fields*, Sci. Rep. 13, 9315 (2023)
- G. Gugliandolo et al., *Inkjet-Printed Interdigitated Capacitors for Sensing Applications: Temperature-Dependent Electrical Characterization at Cryogenic Temperatures down to 20 K*, Instruments 7, 20 (2023)
- A. Alimenti, et al., *Measurements of Surface Impedance in MgB₂ in DC Magnetic Fields: Insights in Flux-Flow Resistivity*, Materials 16, 205 (2023)
- A. Alimenti, et al., *A Dielectric Loaded Resonator for the Measurement of the Complex Permittivity of Dielectric Substrates*, IEEE Transactions on Instrumentation and Measurement, 72 6001009 (2023)
- K. Torokhtii, et al., *Proposal: Apparatus for Sensing the Effect of Surface Roughness on the Surface Resistance of Metals*, Sensors 23, 139 (2023)
- A. Masi, et al., *Superconducting properties of 1144-type iron-based superconductors by mechanochemically assisted synthesis*, MRS Advances 7, 371 (2022)
- A. Alimenti, et al., *Impact of Superconductors' Properties on the Measurement Sensitivity of Resonant-Based Axion Detectors*, Instruments 6, 1 (2022)
- A. Alimenti, et al., *Surface impedance measurements in superconductors in dc magnetic fields: Challenges and relevance to particle physics experiments*, IEEE Instrumentation and Measurement Magazine, 24 12 (2021)
- I. Schiesaro, et al., *Anomalous behavior in the atomic structure of Nb₃Sn under high pressure*, Crystals 11, 331 (2021)
- A. Masi, et al., *Mechanochemically Assisted Synthesis of Ca/K 1144-Type Iron Pnictides*, IEEE Trans. Appl. Supercond. 31, 9354060 (2021)
- N. Pompeo et al., *A method based on a dual frequency resonator to estimate physical parameters of superconductors from surface impedance measurements in a magnetic field*, Measurement 184, 109937 (2021)
- N. Pompeo, et al., *Pinning, Flux Flow Resistivity, and Anisotropy of Fe(Se,Te) Thin Films from Microwave Measurements through a Bitonal Dielectric Resonator*, IEEE Trans. Appl. Supercond. 31, 9368971 (2021)
- A. Masi, et al., *The role of chemical composition in the synthesis of Ca/K-1144 iron based superconductors*, J. All. Comp. 869, 159202 (2021)
- A. Alimenti, et al., *Microwave measurements of the high magnetic field vortex motion pinning parameters in Nb₃Sn*, Supercond. Sci. Technol. 34, 14003 (2021)
- N. Pompeo, et al., *Physics of vortex motion by means of microwave surface impedance measurements (Review article)*, Fizika Nizkikh Temperatur 46, 416 (2020)
- A. Masi, et al., *Fe(Se,Te) from melting routes: The influence of thermal processing on microstructure and superconducting properties*, Supercond. Sci. Technol. 33, 84007 (2020)

- A. Masi, et al., *Mechanochemically assisted low temperature synthesis route of the 1144 Ca-K Iron Based Superconductor*, Supercond. Sci. Technol. 33, 74003 (2020)
- N. Pompeo, et al., *Physics of vortex motion by means of microwave surface impedance measurements (Review article)*, Low Temp. Phys. 46, 343 (2020)
- K. Torokhtii, et al., *Estimation of microwave resonant measurement uncertainty from uncalibrated data*, Acta IMEKO 9, 47 (2020)
- A. Vannozzi, et al., *Epitaxial Zr-doped CeO₂ films by chemical solution deposition as buffer layers for Fe(Se,Te) film growth*, Supercond. Sci. Technol. 33, abb35c (2020)
- N. Pompeo, et al., *Pinning properties of FeSeTe thin film through multifrequency measurements of the surface impedance*, Supercond. Sci. Technol. 33, 84004 (2020)
- E. Bartolomé, et al., *Vortex pinning properties at dc and microwave frequencies of YBa₂Cu₃O_{7-x} films with nanorods and nanoparticles*, Supercond. Sci. Technol. 33, 74006 (2020)
- N. Pompeo, et al., *Intrinsic anisotropy and pinning anisotropy in nanostructured YBa₂Cu₃O_{7-δ} from microwave measurements*, Supercond. Sci. Technol. 33, 44017 (2020)
- A. Alimenti, et al., *Characterisation of dielectric 3D-printing materials at microwave frequencies*, Acta IMEKO 9, 26 (2020)
- N. Pompeo, et al., *Vortex Pinning and Flux Flow Microwave Studies of Coated Conductors*, IEEE Trans. Appl. Supercond. 29, 8636184 (2019)
- D. Alesini, et al., *Galactic axions search with a superconducting resonant cavity*, Phys. Rev. D 99, 101101(2019)
- A. Alimenti, et al., *Surface Impedance Measurements on Nb₃Sn in High Magnetic Fields*, IEEE Trans. Appl. Supercond. 29, 8610123 (2019)
- A. Alimenti, et al., *Challenging microwave resonant measurement techniques for conducting material characterization*, Meas. Sci. Technol. 30, 065601 (2019)
- N. Pompeo, et al., *Measurements of Microwave Vortex Response in DC Magnetic Fields in Tl₂Ba₂CaCu₂O_{8+x} Films*, IEEE Trans. Appl. Supercond. 29, 8001805 (2019)
- D. di Gioacchino, et al., *Microwave losses in a DC magnetic field in superconducting cavities for axion studies*, IEEE Trans. Appl. Supercond. 29, 3500605 (2019)
- A. Masi, et al., *Fe(Se,Te) from melting routes: Insight on phase separation*, IEEE Trans. Appl. Supercond. 29, 8641311 (2019)
- A. Masi, et al., *Fe(Se,Te) system crystallized in molten chlorides flux: The obtained materials and their characterization*, J. Cryst. Growth. 528, 125268 (2019)
- E. Bartolomé, et al., *Intrinsic anisotropy versus effective pinning anisotropy in YB a2 C u3 O7 thin films and nanocomposites*, Phys. Rev. B 100, 54502 (2020)

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV