

Curriculum Vitae

PERSONAL INFORMATION

URL 1 (ID): <https://orcid.org/0000-0002-3248-5888>
URL 2 (Publications): <https://scholar.google.it/citations?user=Dq4QNH0AAAAJ&hl=it>
URL 3 (Publications): <https://www.scopus.com/authid/detail.uri?authorId=35932374400>
URL 4 (Patents): <https://patents.google.com/?inventor=Giovanni+Gerardo+Muscolo>
URL 5 (Web Page 1): http://www.researchgate.net/profile/Giovanni_Muscolo/publications/

• EDUCATION AND TRAINING

2023 - 2034 Italian Scientific qualification as **Associate Professor in Applied Mechanics**.
2019 **Staff training and teaching** (EU Erasmus+), Tarragona, Spain.
2019 **Staff training and teaching** (EU Erasmus+), Beirut, Lebanon.
2016 **Professional qualification to practice the profession of engineer**, Pisa, Italy.
2014 **Ph.D. in Mechanical Engineering**, University of Genova, Italy
2008 **Master of Science in Mechanical Engineering**, University of Pisa, Italy

• ONGOING POSITION

2025 - 2028 **Researcher** at The European Centre for Theoretical Studies in Nuclear Physics and Related Areas (ECT*), Fondazione Bruno Kessler (FBK), Trento, Italy
2025 - 2028 **Visiting Research Professor** Joint Research Initiative - Dept. of Physics, University of Trento, Italy

• ONGOING PROJECT

2025 - 2028 “Blue Ski Research” funded by Fondo Italiano per le Scienze Applicate (FISA)

• PREVIOUS POSITIONS

2024 - 2025 **Research Fellow** (12 months), Università di Bologna (Italy).
2021 - 2024 **Assistant Professor in Mechanics of Machines** (36 months) University of Verona, Italy
2018 - 2021 **Assistant Professor in Mechanics of Machines** (30 months), Politecnico di Torino, Italy
2017 - 2018 **Postdoc Research Fellow** (19 months), Istituto Italiano di Tecnologia, Genova, Italy
2015 - 2017 **Postdoc Research Fellow** (14 months), Scuola Superiore Sant’Anna, Italy
2014 - 2015 **Postdoc Research Fellow** (11 months), University of Genova, Italy
2012 - 2014 **Research Fellow and Postdoc** (24 months), University of Genova, Italy
2011 - 2017 **Co-founder**, (72 months), Humanot s.r.l., Italy
2010 - 2012 **Research Fellow** (34 months), Scuola Superiore Sant’Anna, Pontedera, Italy
2009 - 2010 **Mechanical Design Engineer** (10 months), Scuola Superiore Sant’Anna, Italy

• FELLOWSHIPS AND AWARDS

2024 **Honor: Issue cover** in the Journal Machines MDPI. URL: <https://www.mdpi.com/2075-1702/12/2>
2023 **Honor: Editor’ Choice Article** in MDPI. URL: https://www.mdpi.com/journal/machines/editors_choice?listby=viewed&view=default&page_count=50
2023 **Honor: Issue cover** in the Journal Machines MDPI. URL: <https://www.mdpi.com/2075-1702/11/6>
2023 **Reward: Project of Excellence** “Industry 4.0”, a. a. 2022. University of Verona
2022 **Reward: Project of Excellence** “Industry 4.0”, a. a. 2021. University of Verona
2022 **Honor: Most Viewed** Original Research. URL (visited on 26th August 2023): <https://www.frontiersin.org/journals/mechanical-engineering/articles?sort=2&type=24§ion=1182>
2022 **Honor: Most Viewed** Research Topic URL (visited on 26th August 2023): <https://www.frontiersin.org/journals/mechanical-engineering/research-topics?sort=2§ion=1182>
2021 **Honor: Top 10** Downloaded Articles 2021 in Meccanica Journal (Moretti G., et al., 2021)
2021 **Award: Best Student Paper** Award (with one of my graduate students) - RAAD 2021
2018 **Honor: Notable articles on Biped Robots**: <https://www.worldscientific.com/worldscinet/ijhr>
2016 **Honor: “This Italian Robot Wants to Be Kicked”**. Popular Science. 25/07/2016.

<http://www.popsi.com/this-taekwondo-robot-wants-to-be-kicked>.

- 2015 **Honor:** 5 EXAMPLES OF ROBOTS LEARNING MARTIAL ARTS, <https://blog.awma.com/5-examples-of-robots-learning-martial-arts/>
- 2015 **Honor:** **Open ceremony** with our robot ROLLO, Ericsson Innovation Day
- 2009 **Award:** **Finalist** for Best Student Paper Award in Robio 2009 Conference

• COMPLETED PROJECTS

- 2024 - 2025 (12 months) **Italian National Research Project (PRIN 2022)**. REBALANCE - REinforcing BALANCE with a neurally-driven wearable assistive device. Role: Research Fellow. The project aims to reduce falls and related healthcare and social costs in the elderly. ALMA MATER STUDIORUM - Università di Bologna (Italy).
- 2021 - 2023 (30 months) **European ERC Project** named “Autonomous Robotic Surgery” (ARS). Role: Scientific collaborator. University of Verona.
- 2021 - 2023 (26 months) **Italian National Research Project**. Role: Collaborator in the Industrial Computer Engineering Laboratory (ICE Lab), University of Verona.
- 2019 (5 days) **European research project**. Role: PI for Erasmus+, Tarragona, Spain.
- 2019 (10 days) **European research project**. Role: PI for Erasmus+, Beirut, Lebanon.
- 2018 (7 months) **Industrial Project**. Role: Modelling, control, and design of mechanisms and mechanical systems for industrial applications. Istituto Italiano di Tecnologia (IIT), Genova (Italy).
- 2017-2018 (12 months) **Industrial Project**. Role: Design and development of a new reconfigurable gripper for industrial application. Istituto Italiano di Tecnologia (IIT), Genova (Italy).
- 2015-2017 (14 months) **Italian Research Project**. Responsibilities: modelling and control of an underwater remotely operated vehicle (ROV) using a haptic interface, Scuola Superiore Sant’Anna (Italy).
- 2015-2017 (14 months) **European research project**. Responsibilities: 1) project engineer in WETFEET Project; 2) design of a novel adjustable compliance constraint using double rolling diaphragm seals, Scuola Superiore Sant’Anna (Italy).
- 2014 (10 months) **Industrial Project**. Role: Principal Investigator. Humanot s.r.l.
- 2014-2015 (11 months) **Italian Research Project**. Responsibilities: design and development of an underwater artificial skin. Università degli studi di Genova (Italy).
- 2012-2015 (27 months) **Italian Research Project**. Role: Work Package Co-Leader. Humanot s.r.l.
- 2012-2014 (24 months) **European Research Project** FURBOT (FP7-SST-285055). Responsibilities: 1) Technical Assistant to the project coordinator (Project manager/engineer); 2) Modelling, design and testing of a novel freight urban robotic vehicle. University of Genova, Italy.
- 2012-2013 (12 months) **Industrial Project**. Role: Principal Investigator. Humanot s.r.l.
- 2010-2012 (34 months) **European research project** ROBOSOM FP7-ICT-248366. Responsibilities: modelling, control, design, and optimization of the SABIAN humanoid robot. Scuola Superiore Sant’Anna, Pontedera (Pisa), Italy.
- 2009-2010 (4 months) **European research project** OCTOPUS. Responsibilities: collaborator as Mechanical Design Engineer/R&D (mechanics of legged robots: actuation and balancing). Scuola Superiore Sant’Anna, Pontedera (Pisa), Italy.
- 2009 (6 months) **European research project** NANOBIOACT FP6-NMP-33287. Responsibilities: collaborator as mechanical design engineer. Scuola Superiore Sant’Anna, Pontedera (Pisa), Italy.

• TEACHING ACTIVITIES

- 2022 - 2024 Lecturer-in-charge (Ph.D., 12h) – **Sustainable Embodied Mechanical Intelligence**, University of Verona, Italy
- 2021 - 2023 Lecturer-in-charge (M.Sc., 42 h) – **Industrial Plants**, University of Verona, Italy
- 2021 - 2022 Lecturer-in-charge (Ph.D., 14h) – **Embodied Mechanical Intelligence for Self-Sustainable Machines and Robots**, University of Verona, Italy
- 2020 - 2021 Lecturer-in-charge (M.Sc., 48 h) – **Industrial Plants**, University of Verona, Italy
- 2019 - 2021 Lecturer-in-charge (Ph.D., 12h) – **Legged Robots: from Bioinspiration to Novel Legged**

- Machines**, Politecnico di Torino, Italy
- 2019 Lecturer-in-charge (8 h) - **Mechanics of Machines and Robotics**. European Project ERASMUS+, Staff Mobility for Teaching. Universitat Rovira I Virgili, Spain
- 2018 - 2021 Exercises (M.Sc., 9h) – **Automatic Machines Mechanics**, Politecnico di Torino, Italy
- 2018 - 2020 Exercises (M.Sc., 24h) – **Robotic Systems and Devices**, Politecnico di Torino, Italy
- 2018 - 2019 Exercises (B.Sc., 21h) – **Applied Mechanics**, Politecnico di Torino, Italy
- 2017 - 2018 Lect.-in-charge (Ph.D., 15h) - **Func. Mech. Design for Robotics**, Univ. of Genova, Italy
- 2017 - 2018 Lecturer-in-charge (Ph.D. course, 12h) - **Industrial Robotics**, University of Genova, Italy
- 2017 - 2018 Lecturer-in-charge (Ph.D. course, 15h) - **Multibody Dynamics**, Univ. of Genova, Italy
- 2017 Co-Lecturer (4 h), **Design of Multibody Legged Robots**, ASME 2017-IDETC2017, USA
- 2016 - 2017 Co-Lecturer (Ph.D. course, 15h) - **Applied Mechanics to Legged Robots**, Univ. of Genova

• SUPERVISION OF STUDENTS

- 2024-2025 **Mentor for one Erasmus+ student** (Austria). University of Bologna.
- 2018-2021 **Supervision and Co-Supervision** of a total of 45 MSc students and 12 BSc students (20 MSc. Students in Mechatronics Engineering, 13 MSc. Students in Mechanical Engineering, 7 MSc. Students in Biomedical Engineering, 2 MSc. Student in Computer Engineering, 1 MSc. Student in Automotive Engineering, 1 MSc. Student in Electronics Engineering, 12 BSc. Students in Mechanical Engineering, 1 MSc. Student in Communications and Computer Networks Engineering) at Politecnico di Torino.
- 2019 **Mentor for Students: Challenges with Industries and Students**. Politecnico di Torino. March 2019.
- 2017-2018 **Supervision and Co-Supervision** of 3 MSc Students in Mechatronic Engineering from Politecnico di Torino, 1 MSc. Student in Aeronautical Engineering from University of Pisa, 2 Postdocs, and 2 Research Fellows junior at Italian Institute of Technology.
- 2015 **Project's Supervision**: European Master on Advanced Robotics (EMARO). Polytechnic School. University of Genova. March-July 2015.
- 2013-2014 **Supervision** of 1 MSc. Student in European Master in Advanced Robotics (EMARO) and Co-Supervision of 1 BSc. Student in Mechanical Engineering at Polytechnic School. University of Genova.

• ORGANISATION OF SCIENTIFIC MEETINGS

- 2023 - 2024 Member of: **Organizing Committee** MSC2023. URL: <https://event.unitn.it/mirandola-summer-camp/>
- 2023 - present Member of: **Technical Committee** for Multibody Dynamics at IFToMM: <https://iftomm-world.org/committees/technical-committee-for-multibody-dynamics/>
- 2023 - present Member of: **Technical Committee** for Biomechanical Engineering at IFToMM: <https://iftomm-world.org/committees/technical-committee-for-biomechanical-engineering/>
- 2022 - present Member of: **Technical Committee** for Micromachines at IFToMM: <https://iftomm-world.org/committees/technical-committee-for-micromachines/>
- 2022 - 2024 **Verona City Reference Member** of Italian National Group of Applied Mechanics
- 2022 - 2023 Member of: **Organizing Committee** MSC2022: <https://event.unitn.it/2022/mirandola-summer-camp/>
- 2017 **Chair Session** Proceedings of the ASME 2017 - IDETC2017. Cleveland, Ohio, USA.
- 2014 - 2019 Member of: **Technical Program Committee** of 6 International Conferences.
- 2014 **Chair Session** at TMREES14 International Conference, Beirut – Lebanon.
- 2014 **Chair Session** at MELECON 2014 International Conference, Beirut, Lebanon.

• INSTITUTIONAL RESPONSIBILITIES

- 2023 - 2024 Human Centered Medical System Engineering “**Tirocini**” **Committee**, DIMI, Univ. of Verona.
- 2023 - 2024 Member of: **Committee for CV evaluation for Teaching**, DIMI, Univ. of Verona
- 2023 - 2024 Human Centered Medical System Engineering **Teaching Committee**, Univ. of Verona
- 2023 - 2024 Member of: **Dept. of Engineering for Innovation Medicine-DIMI**, University of Verona
- 2022 - 2024 Member of: **internal PhD Evaluation Commission of 1 PhD student**, University of Verona
- 2021 - 2023 **Coordinator** (66 hours – 9 credits) of the M.Sc. course, University of Verona
- 2020 - 2021 **Coordinator** (80 hours – 9 credits) of the M.Sc. course, University of Verona

2021 - 2023 Member of: **Teaching Committee**, Dept. of Computer Science, University of Verona
 2021 - 2023 Member of: **Dept. Council**, Department of Computer Science, University of Verona
 2019 - 2020 Member of: **Committee for Defence** of M.Sc. in Engineering at Politecnico di Torino
 2019 - 2020 Member of: **Committee for Defence** of B.Sc. in Mech. Eng. at Politecnico di Torino
 2018 - 2021 Member of: **College of Mech., Aero., Aut. and Prod. Eng.** at Politecnico di Torino
 2018 - 2021 Member of: **Department Council**, Politecnico di Torino, Italy
 2017 - 2018 Member of: **PhD Evaluation Commission**, Italian Institute of Technology (IIT), Italy
 2017 - 2018 Member of: **Committee for PostDocs and Research Fellows** at IIT, Italy

• REVIEWING ACTIVITIES

2023 **Associate Editor (AE)** at ICAR 2023, December 5-8, 2023 in Abu Dhabi, UAE
 2023 **Topic Editor:** <https://www.frontiersin.org/research-topics/52515/compliant-mechanisms-for-medical-robotics>
 2022 - 2023 **Guest Editor:** https://www.mdpi.com/journal/machines/special_issues/HVTA9Q49T0
 2022 - present **Topical Advisory Panel Member:** https://www.mdpi.com/journal/actuators/topical_advisory_panel
 2021 - present **Reviewer Board Member** for Actuators Journal, MDPI AG
 2021 - 2023 **Guest Editor** of the Special Issue on “Actuator” an Open Access Journal by MDPI
 2021 - 2023 **Guest Editor** of the Special Issue on IEEE-TMRB Journal
 2021 **Associate Editor** in the Editorial Board of ICAR 2021 - 20th International Conference
 2020 - present **Co-Editing** of 9 International Journal Papers
 2020 - 2021 **Topic Board Member** for Actuators Journal, MDPI AG
 2020 - present **Review Editor** for Frontiers in Virtual Reality, Frontiers in Robotics & AI – sect. Haptics
 2019 - present **Guest Associate Editor:** Frontiers in Mechanical Engineering, Frontiers in Robotics & AI
 2019 - 2020 **Guest Editor** of the Special Issue on “Frontiers in Mechanical Engineering” Journal
 2012 - present **Peer-reviewer** of 25 International Conferences and 28 International Journals

• MEMBERSHIPS OF SCIENTIFIC SOCIETIES

2019 - present Member of: **IFTOMM**, Int. Fed. for the Promotion of Mechanism and Machine Science
 2019 - 2024 Member of: **GMA**, Italian National Group of Applied Mechanics
 2017 - 2019 Member of: **ASME**, the American Society of Mechanical Engineers
 2017 - 2019 Member of: **IEEE**, Institute of Electrical and Electronic Engineers

• INVITED TALKS

2024 “*Compliant Mechatronics in Multibody Design*” 16th, April 2024. Invited by the Director of BIOLAB – Laboratorio di Bioingegneria, Department of Electrical, Electronic, and Information Engineering – Guglielmo Marconi (DEI). Alma Mater Studiorum, University of Bologna. Viale del Risorgimento, 2, 40136 - Bologna (BO).
 2023 “*Creative Engineering for Human Centered Mechatronics*” 16th, June 2023, Notre Dame University-Louaize (NDU), Zouk Mosbeh, Lebanon.
 2019 “*Mechanics of Machines and Robots*” 28th, June 2019, DEIM Departament d’Enginyeria Informàtica i Matemàtiques. University Rovira I Virgili, Tarragona, Spain. Invited by the director of IRCV - Intelligent Robotics and Computer Vision Group of the same University.
 2019 “*Mechanics of Machines and Robots*” 2nd, May 2019, VRL - Vision & Robotics Lab, AUB – American University of Beirut, Beirut, Lebanon. Invited by the Director of the Vision & Robotics Lab.
 2018 “*Mechanics, Modelling, and Design for Robotics*” 24th, April 2018, AUB – American University of Beirut, Beirut, Lebanon. Invited by Chairperson.
 2014 “*Overview on Bio-Robotics: the dream of an artificial man?*” 9th, April 2014, Notre Dame University-Louaize (NDU), Zouk Mosbeh, Lebanon.
 2013 “*Overview on Humanoid Robot Design*”, 22 and 29 April 2013 during the course “*Mechanical Design Methods in Robotics*”, Scuola Politecnica, Università degli studi di Genova, M.Sc. in robotics engineering. Invited by the coordinator of the course.

• CAREER BREAKS

2025 Relocation to work with Fondazione Bruno Kessler (skill: Applied Mechanics)

2024	Relocation to work with University of Bologna (skill: Exoskeletons)
2021	Relocation to Verona (Italy) to work with University of Verona (skill: Robotic Surgery)
2018	Relocation to Torino (Italy) to work with Politecnico di Torino (skill: Applied Mechanics)
2017	Relocation to Genova (Italy) to work with Italian Institute of Technology (skill: Robotics)
2015	Relocation to Livorno (Italy) to work with Scuola Superiore Sant'Anna (skill: Haptics)
2012	Relocation to Genova (Italy) to work with University of Genova (skill: Robotic Vehicles)
2011	Co-founder of "Humanot srl", Start-up and Spin off of Scuola Superiore Sant'anna (skill: Humanoid Robotics)