Curriculum Vitae

PERSONAL INFORMATION

Family name, First names: **Muscolo, Giovanni Gerardo**

ORCID URL: https://orcid.org/0000-0002-3248-5888

Scopus URL: https://www.scopus.com/authid/detail.uri?authorId=35932374400

Google Scholar URL: https://scholar.google.it/citations?user=Dq4QNH0AAAAJ&hl=it

- **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

- **PREVIOUS POSITIONS**

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&section=1182
2022 Honor: **Most Viewed** Research Topic URL (visited on 26th August 2023): https://www.frontiersin.org/journals/mechanical-engineering/research-topics?sort=2&section=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.popsci.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**

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. Universita' degli studi di Genova (Italy).
2012-2015 (27 months) **Italian Research Project**. Role: Work Pakage 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** NANOBIOTACT 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**

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 GMA: https://www.meccanicaapplicata.it/index.php/sedi-del-gruppo/

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 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

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 - present 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

- **CAREER BREAKS**

2024 End of work with University of Verona
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)

Publications and Patents

Ph.D. Thesis

Giovanni Gerardo Muscolo, *"Creative & Visionary Design and Development of Bio-Robotic Machines"*, 27/03/2014, Polytechnic School, University of Genova, Italy.

M.Sc. Thesis

Giovanni Gerardo Muscolo, "*Determinazione di una funzione di trasferimento tra il nuovo impianto di equilibratura rotori e la sala test finale della GE Oil&Gas"*, University of Pisa, 03/12/2008, http://etd.adm.unipi.it/theses/available/etd-11172008-192253/

Poster Presentations

- *"A robotic social reciprocity in children with Autism Spectrum Disorder"*, ICSR 2013. International Conference on Social Robotics, 27-29 October 2013, Bristol, UK.
- "*TREEBOT: tree recovering renewable energy robot*", TAROS 2013. 14th Towards Autonomous Robotic Systems, 28-30th August 2013. St. Anne's College, Oxford.
- *"A robotic suit controlled by the human brain for people suffering from quadriplegia"*, TAROS 2013. 14th Towards Autonomous Robotic Systems, 28-30th August 2013. St. Anne's College, Oxford.
- "*An embodied-simplexity approach to design humanoid robots bioinspired by taekwondo athletes*", TAROS 2013. 14th Towards Autonomous Robotic Systems, 28-30th August 2013. St. Anne's College, Oxford.
- "*A personal robotic flying machine with vertical takeoff controlled by the human body movements*", TAROS 2013. 14th Towards Autonomous Robotic Systems, 28-30th August 2013. St. Anne's College, Oxford.
- *"A Method for the calculation of the effective Center of Mass of Humanoid robots"*, 11th IEEE-RAS International Conference on Humanoid Robots. October 26th - 28th, 2011. Bled-Slovenia.

Oral Presentations

- *Multibody Analysis and Design Optimization of a Full-Scale Biped-Wheeled Exoskeleton.* 31st International Conference on Robotics in Alpe-Adria-Danube Region. RAAD 2022. June 8–10, 2022 at the Lakeside Science & Technology Park. Virtual presentation.
- *Design and Control of a Reclining Chair with Soft Pneumatic Cushions.* 31st International Conference on Robotics in Alpe-Adria-Danube Region. RAAD 2022. June 8–10, 2022 at the Lakeside Science & Technology Park. Virtual presentation.
- *"A New Sustainable Soft Body Protector for Increasing Human Safety in Combat Sports: The Case of Taekwondo".* Virtual Conference of IFToMM - I4SDG Workshop 2021. 25-26 November 2021.
- *"New Sustainable Biped-Wheeled Exoskeleton Prototypes".* Virtual Conference of IFToMM - I4SDG Workshop 2021. 25-26 November 2021.
- *"Electro-Pneumatic System for Imparting Controlled Postural Perturbations on Human Subjects"*, Session: Humanoids, Exoskeletons, and Rehab Robots I, Virtual Conference I-RIM 3D 2020, 10-12 December 2020.

- *"Multibody Analysis and Design of an Electromechanical System Simulating Hyperelastic Membranes"*, ECCOMAS Multibody Dynamics Conference 2019. 15th - 18th July 2019, Duisburg, Germany.
- *"Multibody Analysis of a 3D Human Model with Trunk Exoskeleton for Industrial Applications"*, ECCOMAS Multibody Dynamics Conference 2019. 15th - 18th July 2019, Duisburg, Germany.
- *"Conceptual and Functional Design of a Robotics Chamfering Tool for wooden beams"*, Proceedings of the ASME 2017 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference IDETC2017. August 6-9, 2017, Cleveland, Ohio, USA.
- *"Biomechanics of Human Locomotion with Constraints to Design Flexible-Wheeled Biped Robots"*, AIM 2017IEEE International Conference on Advanced Intelligent Mechatronics July 3-7, 2017, Munich, Germany.
- *"Multibody Biomechanical Analysis of Taekwondo Athletes"*, ECCOMAS Thematic Conference on Multibody Dynamics. June 19 - 22, 2017, Prague, Czech Republic.
- *"Multibody Dynamics of a Flexible Legged Robot with Wheeled Feet"*, ECCOMAS Thematic Conference on Multibody Dynamics. June 19 - 22, 2017, Prague, Czech Republic.
- *"A Novel Tactile Sensor for Underwater Applications: Limits and Perspectives"*, OCEANS 2015 MTS/IEEE, Genova, 18-20 May, 2015.
- *"From Savonius to Bronzinus: a comparison among vertical wind turbines"*. TMREES14 International ConferenceonTechnologies and Materials for Renewable Energy, Environment and Sustainability10^{th} – 13^{th}, April 2014. The Cosmopolitan Hotel, Beirut – Lebanon.
- *"High Energy Efficiency Biped Robots controlled by the Human Brain for people with ALS disease"*, 17th IEEE Mediterranean Electrotechnical Conference, 13-16 April 2014 Beirut, Lebanon.
- *"Vision and Locomotion Control Systems in a bioinspired Humanoid Robot"*, 17th IEEE Mediterranean Electrotechnical Conference, 13-16 April 2014 Beirut, Lebanon.

Abstract

- **A3** - C. Ferraresi, D. Maffiodo, W Franco, **G. G. Muscolo**, C. De Benedictis, M. Paterna, D. P. Quinones, S. Roatta, *"Electro-Pneumatic System for Imparting Controlled Postural Perturbations on Human Subjects"*, Session: Humanoids, Exoskeletons, and Rehab Robots I, Virtual Conference I-RIM 3D 2020, 10-12 December 2020.
- **A2** - **Muscolo G. G.**, Bonisoli E., "*Linear and Nonlinear Dynamic Behaviour for Biped Locomotion with Flexible-Wheeled Legs*", ICoNSoM 2019, International Conference on Nonlinear Solid Mechanics. 16-19 June, 2019, Roma, Italy.
- **A1 -** Mariapaola D'Imperio, Daniele Ludovico, Cristiano Pizzamiglio, **Giovanni Gerardo Muscolo**, Carlo Canali, Darwin Caldwell, Ferdinando Cannella, *Flexible Links for Flexible Interaction*. 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems – IROS 2017, September 24–28, 2017. Vancouver, Canada.

Book

- **B1 - Giovanni Gerardo Muscolo**, *"Meccanica dell'equilibratura – Manuale tecnico-scientifico"*, ISBN 978-88-255-2039-2, formato 17x24 cm, 116 pagine. Anno pubblicazione: Aprile 2019. Gioacchino Onorati Editore.

Chapters

- **CH10** - Lo Piccolo, M.V., **Muscolo, G.G**., Ferraresi, C. (2022). Use of Pneumatic Artificial Muscles in a Passive Upper Body Exoskeleton. In: Rauter, G., Carbone, G., Cattin, P.C., Zam, A., Pisla, D., Riener, R. (eds) New Trends in Medical and Service Robotics. MESROB 2021. Mechanisms and Machine Science, vol 106. Springer, Cham. https://doi.org/10.1007/978-3-030-76147-9_9
- **CH9** - Nigido, G., Bonisoli, E., **Muscolo, G.G.** (2022). Multibody Analysis and Design Optimization of a Full-Scale Biped-Wheeled Exoskeleton. In: Müller, A., Brandstötter, M. (eds) Advances in Service and Industrial Robotics. RAAD 2022. Mechanisms and Machine Science, vol 120. Springer, Cham. https://doi.org/10.1007/978-3-031-04870-8_37
- **CH8** - Bellusci, M., Ferraresi, C., **Muscolo, G.G.** (2022). Design and Control of a Reclining Chair with Soft Pneumatic Cushions. In: Müller, A., Brandstötter, M. (eds) Advances in Service and Industrial Robotics. RAAD 2022. Mechanisms and Machine Science, vol 120. Springer, Cham. https://doi.org/10.1007/978-3-031-04870-8_28
- **CH7** - Magnetti Gisolo S., **Muscolo G.G.**, Paterna M., De Benedictis C., Ferraresi C. (2021) Feasibility Study of a Passive Pneumatic Exoskeleton for Upper Limbs Based on a McKibben Artificial Muscle. In: Zeghloul S., Laribi M.A., Sandoval J. (eds) Advances in Service and Industrial Robotics. RAAD 2021. Mechanisms and Machine Science, vol 102. Springer, Cham. https://doi.org/10.1007/978-3-030-75259-0_23
- **CH6** - Zoccali A., **Muscolo G.G.** (2021) Comfort Perception Analysis of Human Models Interfacing with Novel Biped-Wheeled-Exoskeletons. In: Rauter G., Cattin P.C., Zam A., Riener R., Carbone G., Pisla D. (eds) New Trends in Medical and Service Robotics. MESROB 2020. Mechanisms and Machine Science, vol 93. Springer, Cham. https://doi.org/10.1007/978-3-030-58104-6_3
- **CH5** - Carlo Ferraresi, Carlo De Benedictis, **Giovanni Gerardo Muscolo**, Oliviero Walter Pica, Marco Genovese, Daniela Maffiodo, Walter Franco, Maria Paterna, Silvestro Roatta, Zeevi Dvir (2021) Development of an Automatic Perturbator for Dynamic Posturographic Analysis. In: Rauter G., Cattin P.C., Zam A., Riener R., Carbone G., Pisla D. (eds) New Trends in Medical and Service Robotics. MESROB 2020. Mechanisms and Machine Science, vol 93. Springer, Cham. https://doi.org/10.1007/978-3-030-58104-6_31
- **CH4** - Panero, E., **Muscolo, G. G.**, Pastorelli, S., Gastaldi, L.. *Model Based Analysis of Trunk Exoskeleton for Human Efforts Reduction* (2020) Advances in Intelligent Systems and ComputingVolume 980, Pages 410 - 4182020 28th International Conference on Robotics in Alpe-Adria-Danube Region, RAAD 2019, Kaiserslautern, 19 June 2019 - 21 June 2019.
- **CH3** - Panero, E., **Muscolo, G.G.**, Gastaldi, L., Pastorelli, S. (2020). Multibody Analysis of a 3D Human Model with Trunk Exoskeleton for Industrial Applications. In: Kecskeméthy, A., Geu Flores, F. (eds) Multibody Dynamics 2019. ECCOMAS 2019. Computational Methods in Applied Sciences, vol 53. Springer, Cham. https://doi.org/10.1007/978-3-030-23132-3_6
- **CH2** - Franchi V., Di Rito G., Galatolo R., Cannella F., Caldwell D., **Muscolo G. G.,** *Multibody Analysis and Design of an Electromechanical System Simulating Hyperelastic Membranes* (2020) Computational Methods in Applied Sciences, 53, pp. 115-122. DOI: 10.1007/978-3-030-23132-3_14
- **CH1** - Maffiodo, D., Franco, W., De Benedictis, C., Paterna, M., **Muscolo, G. G.,** Roatta, S., Ferraresi, C., Dvir, Z. *Pneumo-tronic Perturbator for the Study of Human Postural Responses* (2020) Advances in Intelligent Systems and ComputingVolume 980, Pages 374 - 3832020 28th International Conference on Robotics in Alpe-Adria-Danube Region, RAAD 2019, Kaiserslautern, 19 June 2019 - 21 June 2019.

National and International Conferences

- **C30** – Clemente, Luca; Villarreal, Octavio; Bratta, Angelo; Focchi, Michele; Barasuol, Victor; **Muscolo, Giovanni Gerardo**; Semini, Claudio, Foothold Evaluation Criterion for Dynamic Transition Feasibility for Quadruped Robots. 2022 IEEE International Conference on Robotics and Automation (ICRA). Philadelphia, PA, USA May 23-27, 2022, pp. 4679-4685.
- **C29** – Damiano D., Davalli A., Bonisoli E., **Muscolo G.G.** (2022) A New Sustainable Soft Body Protector for Increasing Human Safety in Combat Sports: The Case of Taekwondo. In: Quaglia G., Gasparetto A., Petuya V., Carbone G. (eds) Proceedings of I4SDG Workshop 2021. I4SDG 2021. Mechanisms and Machine Science, vol 108, pp-150-157. Springer, Cham. https://doi.org/10.1007/978-3-030-87383-7_16
- **C28** – Loschi A., Smerchinich A., **Muscolo G.G.** (2022) New Sustainable Biped-Wheeled Exoskeleton Prototypes. In: Quaglia G., Gasparetto A., Petuya V., Carbone G. (eds) Proceedings of I4SDG Workshop 2021. I4SDG 2021. Mechanisms and Machine Science, vol 108, pp.158-165. Springer, Cham. https://doi.org/10.1007/978-3-030-87383-7_17
- **C27** - Emanuela Elisa Cepolina, Isiah Zaplana, MariaPaola D'Imperio, Roberto Gagliardi, Khelifa Baizid, Massimiliano Scaccia, Jian Dai, **Giovanni Muscolo**, Ferdinando Cannella, *"Scalable six bar linkage mechanism for re-orienting and aligning objects: Design methodology"*, Procedia CIRP, Volume 97, 2020, Pages 66-70, ISSN 2212-8271, https://doi.org/10.1016/j.procir.2020.05.205.
- **C26** - A. Bratta, R. Orsolino, M. Focchi, V. Barasuol, **G. G. Muscolo** and C. Semini, "*On the Hardware Feasibility of Nonlinear Trajectory Optimization for Legged Locomotion based on a Simplified Dynamics,"* 2020 IEEE International Conference on Robotics and Automation (ICRA), Paris, France, 2020, pp. 1417-1423, doi: 10.1109/ICRA40945.2020.9196903.
- **C25 -** Panero, E., **Muscolo, G.G.,** Pastorelli, S., Gastaldi, L. (2019). Influence of hinge positioning on human joint torque in industrial trunk exoskeleton. In: Uhl, T. (eds) Advances in Mechanism and Machine Science. IFToMM WC 2019. Mechanisms and Machine Science, vol 73. Springer, Cham. https://doi.org/10.1007/978-3-030-20131-9_14
- **C24 - Muscolo G. G.,** Caldwell D., Cannella F., "*Conceptual and Functional Design of a Robotics Chamfering Tool for wooden beams*", Proceedings of the ASME 2017 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference IDETC2017. August 6-9, 2017, Cleveland, Ohio, USA.
- **C23 - Muscolo G. G.**, Caldwell D., Cannella F., "*Biomechanics of Human Locomotion with Constraints to Design Flexible-Wheeled Biped Robots*", AIM 2017 IEEE International Conference on Advanced Intelligent Mechatronics July 3-7, 2017, Munich, Germany.
- **C22 - Muscolo G. G.,** Caldwell D., Cannella F., "*Multibody Biomechanical Analysis of Taekwondo Athletes*", ECCOMAS Thematic Conference on Multibody Dynamics. June 19 - 22, 2017, Prague, Czech Republic.
- **C21 - Muscolo G. G.,** Caldwell D., Cannella F., "*Multibody Dynamics of a Flexible Legged Robot with Wheeled Feet*", ECCOMAS Thematic Conference on Multibody Dynamics. June 19 - 22, 2017, Prague, Czech Republic.
- **C20 - G. G. Muscolo**, G. Cannata, "*A Novel Tactile Sensor for Underwater Applications: Limits and Perspectives*", OCEANS 2015 MTS/IEEE, Genova, 18-21 May, 2015.
- **C19 - G. G. Muscolo**, R. Molfino, *"System Identification Modeling of Rotors Behaviour"*, 16th International Conference on Harbor, Maritime & Multimodal Logistics Modelling and Simulation (HMS 2014). 10-12 September, Agora Multi-Purpose Complex, University of Bordeaux, Bordeaux, France.

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- **E8** - Haghshenas-Jaryani, M. Dynamics and Computed-Muscle-Force Control of a Planar Muscle-Driven Snake Robot. Actuators 2022, 11, 194. https://doi.org/10.3390/act11070194
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