PERSONAL INFORMATION

Family name, First name: Mattioli Luca

EDUCATION

2020-2024 PhD in Industrial and Management Engineering
Department of Mechanical and aerospace engineering (DIMA), University of Rome "La Sapienza", Rome, Italy
PhD Supervisor: Eduardo Palermo

2016-2020 Master degree in mechanical engineering
Department of Mechanical and aerospace engineering (DIMA), University of Rome "La Sapienza", Rome, Italy

2010-2016 Bachelor degree in mechanical engineering
Department of Mechanical and aerospace engineering (DIMA), University of Rome "La Sapienza", Rome, Italy

CURRENT POSITION

2024–Present Researcher post-Doc
Department of Computer, Automatic and Management Engineering (DIAG), University of Rome "La Sapienza", Rome, Italy

PREVIOUS POSITIONS

2018–2022 Middle school teacher
Collegio S. Giuseppe, Istituto de Merode, Rome, Italy

FELLOWSHIPS AND AWARDS

2024 Paolo Cappa Award, National Measurement Forum (September 2024, Garden Toscana Resosrt) - Best Plenary Session Presenter for the Mechanical and Thermal Measurements Group GMMT)

TEACHING ACTIVITIES

2020 – present Assistant professor – Biomechanics, University of Rome "La Sapienza", Rome, Italy

PUBLICATIONS:

Journals:

L. Mattioli *et al.*, "Design and testing of SIDE: a wearable 4 DoF upper limb exoskeleton for haptic feedback in virtual reality". Submitted at IEEE Transactions on Mechatronics, under review (01/2025).

L. Liguori *et al.*, "Performance of Ankle Exoskeletons on Irregular Terrains: Key Design Principles and Benchmarking Tests". Submitted at IEEE Transactions Neural Systems and Rehabilitation Engineering, under review (01/2025).

L. Mattioli et al., "Kinematic assessment of upper limb impairment in stroke survivors through IMUs during box and block test". Submitted at IEEE Sensours Journal, under review. (12/2024).

V. Ronca *et al.*, "How Immersed Are You? State of the Art of the Neurophysiological Characterization of Embodiment in Mixed Reality for Out-of-the-Lab Applications," *Applied Sciences*, vol. 14, no. 18, Art. no. 18, Jan. 2024, doi: 10.3390/app14188192.

Conference Proceedings:

L. Mattioli et *al.* "SImulated Dynamics Exoskeleton (SIDE): design and testing of the effects of a wearable upper limb exoskeleton on kinematics in industrial-like tasks", submitted at *2025 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Oct. 2025

F. Patanè *et al.*, "Extrinsic Calibration of Motion Tracking Sensors in Wearable Exoskeletons: A Preliminary Study". Submitted at *2025 IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, May. 2025

L. Mattioli *et al.*, "Transparency evaluation of SIDE exoskeleton: a preliminary study for haptic VR training.". Submitted at *2025 IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, May. 2025

L. D'Alvia, L. Mattioli, E. Palermo, and Z. Del Prete, "Development and Validation of an Algorithm for Calibrating Photoplethysmography Integrated Device," in *2024 IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Jun. 2024, pp. 1–6. doi: 10.1109/MeMeA60663.2024.10596893.

E. Colamarino *et al.*, "Inter-limb muscle synergy similarity as marker of post-stroke impairment in Box & Block Test," *Gait & Posture*, vol. 105, pp. S16–S17, Oct. 2023, doi: 10.1016/j.gaitpost.2023.07.306.

L. Mattioli *et al.*, "Kinematic evaluation of upper limb impairment in stroke survivors through box and block test and IMUs," in *2023 IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Jun. 2023, pp. 1–6. doi: 10.1109/MeMeA57477.2023.10171923.

J. Taborri *et al.*, "RANK - Robotic Ankle: Design and testing on irregular terrains," in *2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Oct. 2022, pp. 9752–9757. doi: 10.1109/IROS47612.2022.9981580.

PATENTS

Patent Title: Esoscheletro per interfaccia aptica con ambiente di realtà virtuale e/o aumentata
Patent Number: I0203595-MP
Filing Date: 10/2023
Inventors: Luciano di Donato, Eduardo Palermo, Marco Pirozzi, Alessandro Ferraro, Luca Mattioli, Fabrizio Patanè, Stefano Rossi, Giovanni Mariani, Juri Taborri, Ilaria Mileti, Antonio Lanzotti, Giuseppe di Gironimo