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Decreto Rettore Università di Roma "La Sapienza" n 2267/2021 del 09/08/2021

EDUARDO PALERMO
Curriculum Vitae

Rome
September, 9, 2021

Part I – General Information

Full Name	Eduardo Palermo
Spoken Languages	Italian, English

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,…)
University graduation	2009	Sapienza University of Rome	Master Degree in Biomedical Engineering. Thesis: "Development of a motion Holter using IMUs" Final Mark: 110/110 cum laude.
PhD	2014	Sapienza University of Rome	Industrial Production Engineering. Thesis: "Development and application of novel inertial measurement units for human motion analysis".
Licensure 01	2021	Italian Ministry of Education, University and Research	National scientific qualification to Full Professor of Measurements, SSD ING-IND/12 SC 09/E4 from 28/05/2021 to 28/05/2030
Licensure 02	2018	Italian Ministry of Education, University and Research	National scientific qualification to Associate Professor of Measurements, SSD ING-IND/12 SC 09/E4 from 19/03/2018 to 19/03/2024
Licensure 03	2009	Italian Association of Engineers	Licensure to Industrial Engineer

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
2016	Present	Sapienza University of Rome	Member of the Academic Council for the PhD course in "Industrial and

			Management Engineering”
2016	Present	Sapienza University of Rome	Member of the Academic Council of Mechanical Engineering
2015	Present	Sapienza University of Rome	Member of the Academic Council of Clinical and Biomedical Engineering
2020	Present	Department of Mechanical and Aerospace Engineering - Sapienza University of Rome	Research Fellowship Grantee BE_FOR_ERC
2015	2020	Department of Mechanical and Aerospace Engineering - Sapienza University of Rome	Assistant Professor (RTD-A) SSD: ING-IND/12
2014	2015	Department of Mechanical and Aerospace Engineering, New York University, Tandon School of Engineering, NY, USA	12 months Post Doctoral Fellowship
2009	2010	Department of Mechanical and Aerospace Engineering - Sapienza University of Rome	Research Fellowship SSD: ING-IND/12

IIIB – Other Appointments

Start	End	Institution	Position
2021	Present	Sensors Journal	Guest Editor for the Special Issue: “Portable Systems for Diagnostics and Monitoring Applications”
2018	Present	IEEE Sensor Council Italy Chapter	Chair of the Technical Committee for IMUs
2016	Present	Sapienza University of Rome	Responsible Person for the Double Degree Master Programs in Mechanical Engineering with NYU Tandon School of Engineering and Georgia Institute of Technology, Sapienza University of Rome, Italy
2021	2021	IEEE International Workshop on Metrology for Industry 4.0 and IoT	Tutorial Chair
2019	2019	IEEE International Workshop on Metrology for Industry 4.0 and IoT	Special Session Chair
2018	2018	IEEE International Symposium on Measurements for Medical Application	Technical Program Committee member and session chair
2014	Present	Measurement Science and Technology, Measurement Science Review, Measurements, Sensors, Journal of Biomechanics, IEEE Signal Processing Letters, Computers in Human Behavior, Gait & Posture, IEEE Robotics and Automation Magazine, IEEE Transactions on	Reviewer

Mechatronics, Journal of Medical Robotics Research, Mechatronics, Neuroscience Letters, Physiological, Shock and Vibration, European Journal of Physical and Rehabilitation Medicine, Frontiers In Digital Health

Part IV – Teaching experience

Year	Institution	Lecture/Course
From 2016	Sapienza University of Rome	Course: Biomechanics (ING-IND/12)
From 2015	Sapienza University of Rome	Course: Measurements for Mechanical Systems and Industry Course (ING-IND/12)
2010-2013	Sapienza University of Rome	Lecture: Measurement of Torque
2010-2013	Sapienza University of Rome	Lecture: Measurement of human body kinematics and kinetics
2010-2013	Sapienza University of Rome	Lecture: Use of inertial sensors in Biomechanics
From 2015	Sapienza University of Rome	Supervision of 1 Postdoc, 5 PhD Students, and more than 60 Master Student
2014	New York University, Tandon School of Engineering, NY, USA	Supervision of 1 Master student

Part V - Society memberberships, Awards and Honors

Year	Title
From 2018	Member IEEE, IEEE IMS.
2020 - Present	Awarded Fellowship BE_FOR_ERC, Sapienza University of Rome
2014	Awarded Best Student in 30 years of the PhD School of Sapienza University of Rome in Industrial Production Engineering.
2016	Award for the Best Paper presented by a woman at IEEE International Symposium on Measurements for Medical Application, Benevento (Italy): *"A Wearable Setup for Auditory Cued Gait Analysis in Patients with Parkinson's Disease"*.

Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

Year	Title	Program	Grant value
2020 - Present	PI: SIDE – Development of an exoskeleton for simulated dynamics and haptic interface	BRIC – INAIL	€ 299.970,00
2021 - Present	Local PI: COVIDMETER - Sistema termografico basato su intelligenza artificiale per l'individuazione di soggetti sospetti COVID-19 in aree ad elevato afflusso	FISR 2020 - MUR	€ 60.800,00
2021 - Present	Local-PI: TO RANK – Testing and Optimization of a Robotic ANKle	EU – Eurobench Sub-Grant	€ 54.250,00
2021- Present	I: RAISE – Rehabilitation of arm under immersive and simulated environment	Lazioinnova – Progetti di Gruppi di Ricerca 2020	€ 149.730,00
2020-2021	PI: WAINOT – Wearable assistive intelligence as a neuroprosthesis for motor control in Parkinson's Disease	BE_FOR_ERC – Sapienza University of Rome	€ 50.000,00
2018-2021	I: Development of an experimental setup for perturbed posturography in parients with Parkinson's Disease	Bandi di Ateneo – Sapienza University of Rome	€ 8.000,00
2017-2020	PI: Application of robot mediated therapy on patients with rotator cuff tendinopathy.	Bandi di Ateneo – Sapienza University of Rome	€ 9.000,00
2015-2017	I (and Local-PI from August 2016 to the end): MD-PAEDIGREE - Model-Driven European Paediatric Digital Repository	EU – European commission FP7 Program	€ 11.869.000,00

Part VII – Research Activities

Keywords	Brief Description
Mechanical and thermal measurements Experimental Biomechanics Wearable sensors Human motion analysis Rehabilitation Robotics	My research interest is the design, implementation, and validation of new methods, instrumentation and test protocols applied to Experimental Mechanics, Biomechanics, and Robotics for Rehabilitation, with particular focus on human gait and motion analysis. My research activity involves wearable inertial sensors, mechanical and thermal sensors, machine learning algorithms, mechatronics, human-computer interactions, bio-signal processing. The studies I conducted included *in-vivo* clinical experimentation in cooperation with clinical research partners. In industrial field, I am conducting research studies in the thermos-mechanical characterization of mechanical parts of integrated systems, as well as in the development of 3D-printed sensors.

Part VIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	60 (33 papers + 27 proceedings)	Scopus	2013	2021
Book chapter [scientific]	1	Scopus	2013	2021

Total Impact factor	93.95 (WoS)
Average Impact Factor per product (only for the 33 papers)	2.85 (WoS)
Total Citations	854 (Scopus)
Average Citations per Product	14.2 (total); 22.6 considering only the papers (Scopus)
Hirsch (H) index	13 (Scopus)
Normalized H index*	1.44 (Scopus)

*****H index divided by the academic seniority.

Part IX– Selected Publications

1. Germanotta, M., Mileti, I., Conforti, I., Del Prete, Z., Aprile, I., & **Palermo, E.** (2021). Estimation of human center of mass position through the inertial sensors-based methods in postural tasks: an accuracy evaluation. *Sensors*, 21(2), 601. IF: 3.576, Cit: 2.
2. Mileti, I., Taborri, J., Rossi, S., Del Prete, Z., Paoloni, M., Suppa, A., & **Palermo, E.** (2020). Reactive postural responses to continuous yaw perturbations in healthy humans: The effect of aging. *Sensors*, 20(1), 63. IF: 3.275, Cit: 13.
3. Conforti, I., Mileti, I., Del Prete, Z., & **Palermo, E.** (2020). Measuring biomechanical risk in lifting load tasks through wearable system and machine-learning approach. *Sensors*, 20(6), 1557. IF: 3.275, Cit: 13.
4. Taborri, J., **Palermo, E.**, & Rossi, S. (2019). Automatic detection of faults in race walking: A comparative analysis of machine-learning algorithms fed with inertial sensor data. *Sensors*, 19(6), 1461. IF: 3.275, Cit: 26.
5. Mileti, I., Germanotta, M., Di Sipio, E., Imbimbo, I., Pacilli, A., Erra, C., ... & **Palermo, E.** (2018). Measuring gait quality in Parkinson's disease through real-time gait phase recognition. *Sensors*, 18(3), 919. IF: 3.031, Cit: 23.
6. D'Alvia, L., **Palermo, E.**, & Del Prete, Z. (2018). Validation and application of a novel solution for environmental monitoring: A three months study at "Minerva Medica" archaeological site in Rome. *Measurement: Journal of the International Measurement Confederation*, 129, 31-36. IF: 2.791, Cit: 7.
7. **Palermo, E.**, Hayes, D. R., Russo, E. F., Calabrò, R. S., Pacilli, A., & Filoni, S. (2018). Translational effects of robot-mediated therapy in subacute stroke patients: an experimental evaluation of upper limb motor recovery. *PeerJ*, 6, e5544. IF: 2.353, Cit: 8.

8. Ancillao, A., **Palermo, E.**, & Rossi, S. (2017). Validation of ankle strength measurements by means of a hand-held dynamometer in adult healthy subjects. *Journal of Sensors*, 2017. IF: 2.057, Cit: 6.
9. **Palermo, E.**, Laut, J., Nov, O., Cappa, P., & Porfiri, M. (2017). A natural user interface to integrate citizen science and physical exercise. *PLoS One*, 12(2), e0172587. IF: 2.766, Cit: 12, Press release: 52 news outlets including: NBC News, KSLA News, KUSI News, Health Medicinet
10. Motta, C., **Palermo, E.**, Studer, V., Germanotta, M., Germani, G., Centonze, D., ... & Rossi, S. (2016). Disability and fatigue can be objectively measured in multiple sclerosis. *PLoS One*, 11(2), e0148997. IF: 2.806, Cit: 22.
11. Taborri, J., Scalona, E., **Palermo, E.**, Rossi, S., & Cappa, P. (2015). Validation of inter-subject training for hidden Markov models applied to gait phase detection in children with cerebral palsy. *Sensors*, 15(9), 24514-24529. IF: 2.033, Cit: 40.
12. **Palermo, E.**, Rossi, S., Marini, F., Patanè, F., & Cappa, P. (2014). Experimental evaluation of accuracy and repeatability of a novel body-to-sensor calibration procedure for inertial sensor-based gait analysis. *Measurement: Journal of the International Measurement Confederation*, 52, 145-155. IF: 1.484, Cit: 97.
13. **Palermo, E.**, Rossi, S., Patane, F., & Cappa, P. (2014). Experimental evaluation of indoor magnetic distortion effects on gait analysis performed with wearable inertial sensors. *Physiological measurement*, 35(3), 399. IF: 1.808, Cit: 35.
14. Taborri, J., Rossi, S., **Palermo, E.**, Patanè, F., & Cappa, P. (2014). A novel HMM distributed classifier for the detection of gait phases by means of a wearable inertial sensor network. *Sensors*, 14(9), 16212-16234. IF: 2.245, Cit: 75.
15. Abaid, N., Cappa, P., **Palermo, E.**, Petrarca, M., & Porfiri, M. (2013). Gait detection in children with and without hemiplegia using single-axis wearable gyroscopes. *PloS one*, 8(9), e73152. IF: 3.534, Cit: 53.

Part X– Patents

Year	Title
2019	Italian Patent n. 102019000003657: “Un dispositivo sensore tattile”
2018	Italian Patent n. 102017000062668: “Procedimento e dispositivo per rilevare condizioni di marcia durante la marcia di un atleta”

Rome, September 9, 2021

Eduardo Palermo