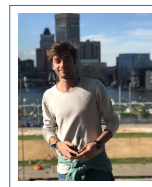# Marcello Chiurazzi

Biomedical Engineer, Ph.D., Minor: Bio-engineering

✆ +39 050883072
✉ marcello.chiurazzi@santannapisa.it

I am currently a Post-Doctoral researcher. at the BioRobotics Institute of the Scuola Superiore Sant'Anna and I am looking for a RTD-A position in novel smart technologies for collaborative robotics within either industrial or medical scenarios. I have experience in mechatronics, robotics, research and teaching. I have published 3 conference papers and 8 journal papers. Moreover, I am a co-author of 1 book in Control automation and robotics where I focused on the chapter related to robotics for surgery. I am currently working in an European project, ODIN, focused on the development of the smart hospitals of the future.

Education

2017–2021 **Scuola Superiore Sant'Anna, Pisa, Italy**, *PhD Program in BioRobotics,*

Novel sensorized technologies for human robot collaboration in medical scenarios

2013–2015 **Università Campus Bio-Medico di Roma, Roma, Italy**, *Master degree in bio-medical engineering - Robotic curriculum,*

Multiple object grasping using semantic inference

2009-2013 **Università Federico II di Napoli, Napoli, Italy**, *Bachelor degree in bio-medical engineering,*

Static and dynamic modelling of the human gait cycle

Experience

06/2021 .. **Post-Doc**, *Scuola Superiore Sant'Anna*, SVILUPPO DI TECNOLOGIE BIOMEDICHE PER LA PROGETTAZIONE DI DISPOSITIVI E SISTEMI BIOROBOTICI:, *i)* Sensorization of mobile platform for environmental awereness, *ii)*Development of a standalone capacitive unit for high proximity detection and interaction, *iii)* Development of GUIs for sensor fusion representation, *iv)* Development of a novel catheter for high resolution manometry, and *v)* Technical manager of the ODIN european project

11/2021 .. **Shareholder and member** , *Mediate Srl:*, Chief Techinical Officier of the perception division, Spin-Off company of the Scuola Superiore Sant'Anna

12/2019 – 10/2021 **Coordinated and continuous collaboration**, *Mediate Srl:*, *i)* HuMove - Development and validation of a device for monitoring sexual performances, software development and statistic analysis of collected data for clinical validation, *ii)* Robotic integration of industrial platforms within the I4.0 framework and *iii)* HEXtraSENSE project - A collaborative Skin for industrial robots

10/2018– 10/2020 **Coordinated and continuous collaboration**, *Scuola Superiore Sant'Anna:*, SMASH project - Smart Machine for Agricultural Solutions Hightech, Development of algorithm for autonomous navigation using 2D laser scanners - Labview - and development of control algorithms for UR10 - Python

02/2017 – 10/2017 **Robotic assistant researcher**, *Scuola Superiore Sant'Anna:*, AURA - Novel collaborative strategies for Human Robot Collaboration, Design and implementation of proximity sensor for obstacle detection throughout *i)* Development of a simulated virtual environment for the collaborative Skin of industrial robots - ROS, *ii)* Development of control algorithms for enabling collision avoidance strategies - LabView - and *iii)* Development of an electric model of the human hand -COMSOL

01/2016 – 12/2016 **Robotic assistant researcher**, *CEIT - IK4*, HOMEREHAB - ECHORD++, CAD and mechatronic design and control of a robotic device for *in-home* rehabilitation of the upper limb for post-stroke patients - PTCreo and Matlab - and serious game development - Vizard and OGRE)

Courses

PhD

Introduction to Machine Learning, Statistics and data analysis,High-Tech Entrepreneurship, Graphical programming for measurement test and system, Writing scientific papers and presentations

M.Sc

Biomedical ethics, Image processing, Electronics and sensors for biomedical applications, Hospital plants, Bionic systems and neuroengineering, Biomedical Robotics, Rehabilitation bioengineering, Biomicrosystems, Bio-Inspired Calculation models, Bio-mechatronics, Dynamic of complex systems, Measurement and instrumentation for clinical engineering, English language advanced, Foundamentals of tissue engineering, Health technology menagement and assesment

Awards

PREMIO DI DOTTORATO: "Giorgio Santambrogio", Politecnico di Milano

«per aver contribuito allo studio e allo sviluppo di nuovi sensori capacitivi con elevate prestazioni in termini di accuratezza e rilevamento della prossimità e con evidente applicabilità e potenziale nell'ambito delle misure biomediche, della robotica collaborativa, della sensoristica indossabile e delle interfacce uomo-macchina

PNI 2021 - EIT ealth

Pleased to be a partner of 2021 PNICube, the National Award for Innovation in Italy - PNI (Premio Nazionale per l'Innovazione) again! This year we awarded HuMOVE, a low-invasive wearable monitoring platform in sexual medicine. HuMOVE is a project of AID srl. The solution has the potential to be a helpful tool for physicians to accurately classify sexual disorders. EIT Health has already supported over 50 start-ups in Italy in many different disciplines of healthcare industry. *"Thank you University of Rome Tor Vergata and PNI Organisers! Good luck HuMOVE and welcome to the EIT Health Family"*

StartCup Toscana - GiovaniSi

AIDevices, presentato da Marcello Chiurazzi della Scuola Sant'Anna, per lo sviluppo di un dispositivo indossabile, non invasivo, che ha l'obiettivo di sostituire la valutazione soggettiva del paziente con dati oggettivi forniti al medico

Accademical activities

2018 – **University of Pisa**, *Medical Robotics - teaching support*
Introduction to Graphical programming language throughout Labview and National Instrument devices

2018 – **Scuola Superiore Sant'Anna**, *Tutoring*
Tutoring activities of 4 master students and 1 PhD student in activities related to the field of collaborative robotics and endoluminal robotics

2021 – **Scuola Superiore Sant'Anna**, *Associate Editor*, Sensor MDPI

Membership of scientific societies

2018 – **IEEE**, *Member*, Membership at the Institute of Electric and Electronics Engineers (IEEE) and IEEE Young Professionals
0000-0002-7056-8844

Summer and winter schools

09/2019 **Summer school - SSSR2019**, *Speaker and poster session as PhD student*, Summer school on medical robotics and computer-integrated interventional medicine, France - LIRMM

Scientific publication

Novel capacitive technology for human augmented detection towards collision avoidance strategies Marcello Chiurazzi et al., **IEEE Sensor journal (Q1 − IF 3.94)**

Intrinsically Distributed Probabilistic Algorithm for Human–Robot Distance Computation in Collision Avoidance Strategies Marcello Chiurazzi et al., **MDPI Electronics (Q2 − IF 2.412)**

Robotic-Assisted Colonoscopy Platform with a Magnetically-Actuated Soft-Tethered CapsuleMauro Verra*, Andrea Firrincieli*, Marcello Chiurazzi* et al., **Cancers (Q1 − IF 6.433)**

Tactile decoding of edge orientation with artificial cuneate neurons in dynamic conditions Udaya Rongala, Alberto Mazzoni, Marcello Chiurazzi et al. , **Frontiers Neuroscience (Q2-IF 3.644)**

Frontiers of Robotic Colonoscopy: A Comprehensive Review of Robotic Colonoscopes and Technologies Gastone Ciuti, Karolina Skonieczna-Żydecka, Wojciech Marlicz, Veronica Iacovacci, Hongbin Liu, Danail Stoyanov, Alberto Arezzo, Marcello Chiurazzi et al., **MDPI Journal of Clinical Medicine (Q1-IF 3.303)**

Endoscopic tactile capsule for non-polypoid colorectal tumour detection through hardness classification robust to variable curvatureDomenico Camboni, Marcello Chiurazzi et al., **IEEE Transactions on Medical Robotics and Bionics (Q1 − IF 5.239)**
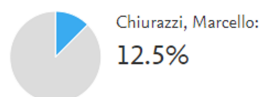
Visual-Based Defect Detection and Classification Approaches for Industrial Applications—A SURVEYTamás Czimmermann, Gastone Ciuti, Mario Milazzo, Marcello Chiurazzi et al., **MDPI Sensors (Q2 − IF 3.427)**

Defect detection using high-definition line-laser scannerTamas Czimmermann* Marcello Chiurazzi* et al., **The International Journal of Advanced Manufacturing Technology (Q1 − IF 2.750)**
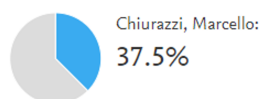
Outputs in Top Citation Percentiles ⓘ

Publications in top 10% most cited worldwide
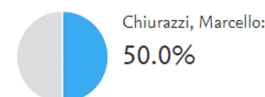☐ Show as field-weighted

Chiurazzi, Marcello:
12.5%

Publications in Top Journal Percentiles ⓘ

Publications in top 10% journals
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Publications co-authored with researchers in other countries/regions

Chiurazzi, Marcello:
37.5%

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Publications with both academic and corporate affiliations

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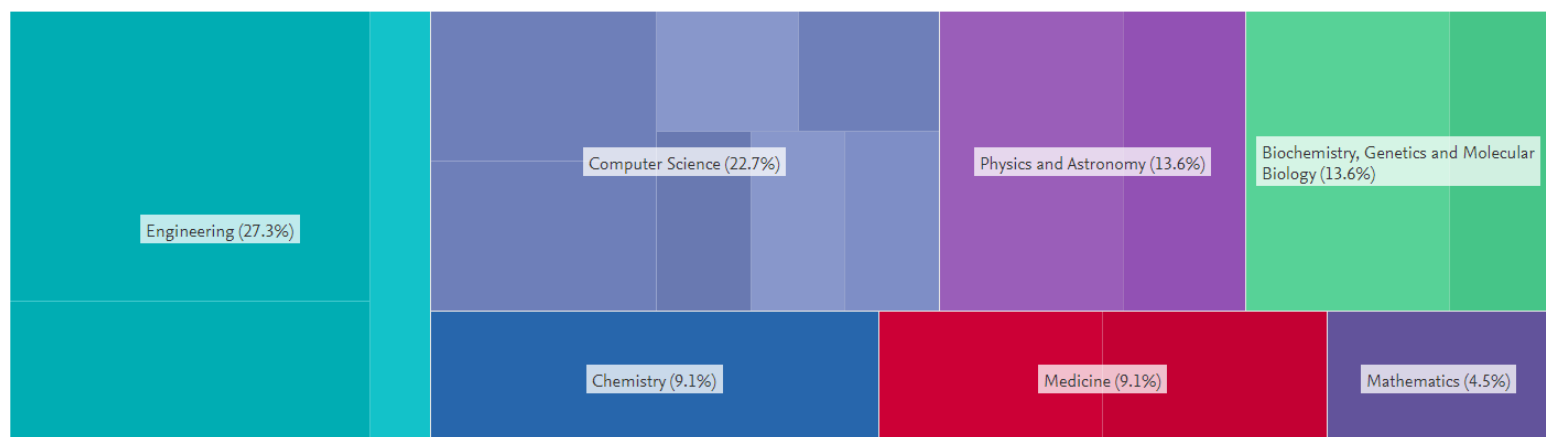
Patent

Paolo Dario, Calogero M. Oddo, Gastone Ciuti, Stefano Roccella, Mario Milazzo, Marcello Chiurazzi et al, *Sistema per l'identificazione di difetti su una superficie di almeno una porzione di una scocca e relativo metodo.* **ID: 102018000004368, 10 April 2018**

Marcello Chiurazzi, Guido G. Garozzo, Gastone Ciuti, Paolo Dario, *Sistema sensibile per il rilevamento aumentato della prossimità.* **ID: 02018000007150, 12 July 2018**

Marcello Chiurazzi, Giorgia Spreafico, Gastone Ciuti, Andrea Firrincieli, Cesare Stefanini, Francesco Paolo Falotico, Davide Bagnoli, Sergio Emiliani *DISPOSITIVO E SISTEMA DIAGNOSTICO E RELATIVO METODO DI PRODUZIONE.* **ID: 102021000003197, 10 February 2021**

Languages

■■■■■ English
■■■□□ Spanish
■□□□□ German

Computer Skills

Basic	Java, PTCreo, EasyEDA, WorlViz, Aruco MArker Detector
Intermediate	C,C++, AsimTool, Python, Solidworks, Comsol, LTSpice
Advanced	ROS, Prolog, OWL, Labview, Protegè, Move-it, Matlab

Project invvolment

Regional	SMASH, REVYTA, MEDICA
National	ARONA, AURA
European	Endoo, ODIN

Experience with robotic platofrms

Intermediate	Kuka Med, RB-1, Custom cartesian robots developed by Festo
Advanced	Ur3, Ur5, Ur10, Kuka LBR iiwa 14, COMAU Racer 3, COMAU Racer 5, COMAU Racer 7, COMAU Dual Arm

Tutto quanto dichiarato corrisponde a verità ai sensi delle norme in materia di dichiarazioni sostitutive di cui all'art. 46 e ss. del D.P.R. 445/2000.