



PhD in BIOINGEGNERIA / BIOENGINEERING - 38th cycle

THEMATIC Research Field: AI-DRIVEN PERSONALIZED HUMAN-MACHINE INTERACTION FOR APPLICATION IN NEXT-GENERATION MEDICAL ROBOTS

Monthly net income of PhDscholarship (max 36 months)

€ 1325.0

In case of a change of the welfare rates during the three-year period, the amount could be modified.

Context of the research activity

Motivation and objectives of the research in this field

The main objective of this work is to develop data analytics techniques including, but not limited to artificial intelligence (AI) algorithms and mathematical models to characterize and improve human-machine interaction, towards the development of next-generation personalized medical robots.

This research is in the framework of "Fit4MedRob- Fit for Medical Robotics", Piano Nazionale Complementare (PNC) – Decreto Direttoriale n. 931 del 6 giugno 2022 – Avviso per la concessione di finanziamenti destinati ad iniziative di ricerca per tecnologie e percorsi innovativi in ambito sanitario e assistenziale, Codice PNC0000007.

Methods and techniques that will be developed and used to carry out the research

The developed techniques will include a combination of machine learning, signal processing, statistical and mathematical modeling, and optimization techniques.

Educational objectives

To train the PhD student in data analytics and modeling techniques including machine learning, statistical and mathematical modeling, and optimization for application in next-generation personalized medical robots.



Job opportunities	The research will be carried out in the framework of the project “Fit4MedRob- Fit for Medical Robotics” Piano Nazionale Complementare (PNC) – Decreto Direttoriale n. 931 del 6 giugno 2022 – “Avviso per la concessione di finanziamenti destinati ad iniziative di ricerca per tecnologie e percorsi innovativi in ambito sanitario e assistenziale, PNC0000007”, in strong cooperation with IEIT CNR, coordinator of the project. CNR IEIT has large opportunities for post-doc positions and interdisciplinary research careers and it has strong links with several academic and industrial partners at national and international level.
Composition of the research group	1 Full Professors 0 Associated Professors 6 Assistant Professors 5 PhD Students
Name of the research directors	PROF. ALESSIA PAGLIALONGA

Contacts	
Email: alessia.paglialonga@cnr.it Phone: +39 02 2399 3343 Webpage: https://publications.cnr.it/authors/alessia.paglialonga	

Additional support - Financial aid per PhD student per year (gross amount)	
Housing - Foreign Students	--
Housing - Out-of-town residents (more than 80Km out of Milano)	--

Scholarship Increase for a period abroad	
Amount monthly	662.5 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information	
<p>The student will be encouraged to attend courses and schools in the areas of machine learning, signal processing, statistics and mathematical modeling, and robotics at Politecnico di Milano and at CNR and at other Universities.</p> <p>This research is in the framework of ?Fit4MedRob- Fit for Medical Robotics?, Piano Nazionale Complementare (PNC) ?</p>	



Decreto Direttoriale n. 931 del 6 giugno 2022 ?

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