Francesca Federica Donadio

EDUCATION AND TRAINING

15 OCT 2015 – 29 OCT 2019 Catanzaro, Italy

BACHELOR'S DEGREE IN COMPUTER AND BIOMEDICAL ENGINEERING University Magna Graecia of Catanzaro

- Main engineering subject in the class L-08 (Information Technology Engineering) of the Italian Degree Programme.
- During the thesis, in the BioNEM (Bio- And Nano-Engineering For Medicine) laboratory within the University Magna Graecia of Catanzaro, I developed a standardizable method for the preparation of therapeutic foams by means of use of low frequency ultrasound. I also wanted to prove that ultrasound produces sclerosing foams with size bubbles lower than those obtained with the Tessari's method.

Address Viale Europa, Catanzaro, Italy | **Website** https://web.unicz.it/it/ | **Final grade** 95/110 |

Level in EQF EQF level 6 | **National classification** First Cycle Degree, 3 years | **Type of credits** CFU |

Number of credits 180 | **Thesis** Characterization of therapeutic foams produced by low frequency ultrasound

1 DEC 2019 – 29 MAR 2022 Catanzaro, Italy

MASTER'S DEGREE IN BIOMEDICAL ENGINEERING University Magna Graecia of Catanzaro

- Main engineering subject in the class LM-21 (Biomedical Engineering) of the Italian Degree Programme.
- The device created is able to monitor in real time both the patient's posture and the execution of the rehabilitation exercises. In particular, the device allows you to supervise an upper limb abduction and adduction exercise, recommended by protocols for shoulder rehabilitation. All of this belongs to the Motion Capture field of research. The analysis of the movement of the human body is made possible thanks to Computer Vision.

Address Viale Europa, Catanzaro, Italy | **Website** https://web.unicz.it/it/ | **Final grade** 110/110 cum laude |

Level in EQF EQF level 7 | **National classification** Second Cycle Degree, 2 years | **Type of credits** CFU |

Number of credits 120 |

Thesis Embedded platform development and implementation of human body motion analysis algorithms

2 NOV 2022 – CURRENT Catanzaro, Italy

PHD STUDENT IN TRANSLATIONAL MEDICINE University Magna Graecia of Catanzaro

Human-in-the-loop control of robots for motor and functional rehabilitation:

- The Biomechatronics Laboratory @ UMG is working on the development of innovative applications of Rehabilitation Robotics based on the design and experimental testing of novel soft biorobotic devices and related control strategies enabling optimal and adaptive regulation of the human-robot interaction during robotic therapy. In conventional application of Rehabilitation Robotics, some repetitive and rigid movements of the robot during the rehabilitation exercises generally do not match the fundamental requirements of adaptive and intrinsically safe human-robot interaction. These issues severely limit the applicability of today's rehabilitation robots for efficient and intrinsically safe rehabilitation. The main goal of the PhD project is to devise novel biorobotic devices which will integrate the principle of controllable compliance of robotic mechanisms with suitable

control methodologies in order to support safe and adaptive human-robot interaction. In addition, novel impedance and admittance control strategies, which take into account motor learning performance, will be designed and experimentally tested. The adaptive performance is a key concept in the field of the control of the physical human-robot interaction since, in the framework of human-in-the-loop control of rehabilitation robots, the robot behavior can be shaped on the basis of the intention and of the evolution of the individual features of the patient during the robotic therapy. This holistic and integrated approach is envisioned to improve the therapeutic performance and safety of future rehabilitation robots.

Address Viale Europa, Catanzaro, Italy | **Level in EQF** EQF level 8

WORK EXPERIENCE

1 APR 2019 – 20 JUL 2019 Catanzaro, Italy

STAGE CALABRIA REGION

- Software Development for the management of public transport.

20 DEC 2021 – 20 JAN 2022 Sellia Marina, Catanzaro, Italy

INTERNSHIP AQUA SALUS PHYSIOTHERAPY AND REHABILITATION CENTRE

- Knowledge and use of devices for robotic rehabilitation of Tayro Motion and use of device created during my thesis on patients in the centre.

10 JUN 2022 – 10 OCT 2022 Milan, Italy

NETWORK GOVERNANCE CONSULTANT ALTEN

- Italian mobile and fixed network management.

LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

ADDITIONAL INFORMATION

DRIVING LICENCE

Driving Licence: B