



UNIVERSITÀ  
DEGLI STUDI  
FIRENZE

DIPARTIMENTO DI  
MEDICINA SPERIMENTALE  
E CLINICA



 **Fondazione  
Don Carlo Gnocchi  
Onlus**



**PROMISE@LAB**

# **PROTOCOLS AND OUTCOME MEASURES IN REHABILITATION MEDICINE**

JOINT RESEARCH LAB

Department of Clinical and Experimental Medicine, University of Florence  
IRCCS Fondazione don Carlo Gnocchi ONLUS, Firenze

Scientific Director: Francesca Cecchi



**Affiliated Departments, Unifi: Health Sciences (DSS), Neurosciences-Pharmacological-pediatric (NEUROFARBA) and Industrial Engineering (DIEF), Departments, University of Florence, Italy**

## Joint research lab Department of Experimental and Clinical Medicine (DMSC), University of Florence - IRCCS Fondazione don Carlo Gnocchi, Florence, Italy

The **DMSC** was established as a professional aggregation of faculty and researchers pertaining to different scientific disciplinary fields whose common goal is to promote research activities in their respective areas of expertise. clinical and experimental research are carried out in the pursuit of scientific and technological innovation and allows for the provision of advanced cultural and professional training for students at the University of Florence.

**Fondazione don Gnocchi** is a Scientific Institute of Care and Research with 27 facilities in Italy. The neuromotor rehabilitation unit of the Centre of Florence counts: 86 beds; 10 day hospital beds; +100 outpatients/day



# PROMISE@LAB MISSION

PROMISE@LAB is an **interdisciplinary research group** that gathers the diverse research and clinical expertise of:

- medical specialists (physiatrists, neurologists, geriatricians)
- physiotherapists
- psychologists
- occupational therapists
- speech therapists

Our mission is to develop and validate innovative outcome measures and rehabilitation interventions, including **rehabilitation technologies**, for persons with disability, with focus on:

- **Neurological conditions (stroke, severe Acquired Brain Injuries (sABI) and Parkinson's disease)**
- **Musculoskeletal conditions**

And to co-create and validate innovative interventions to promote **healthy/active aging**.



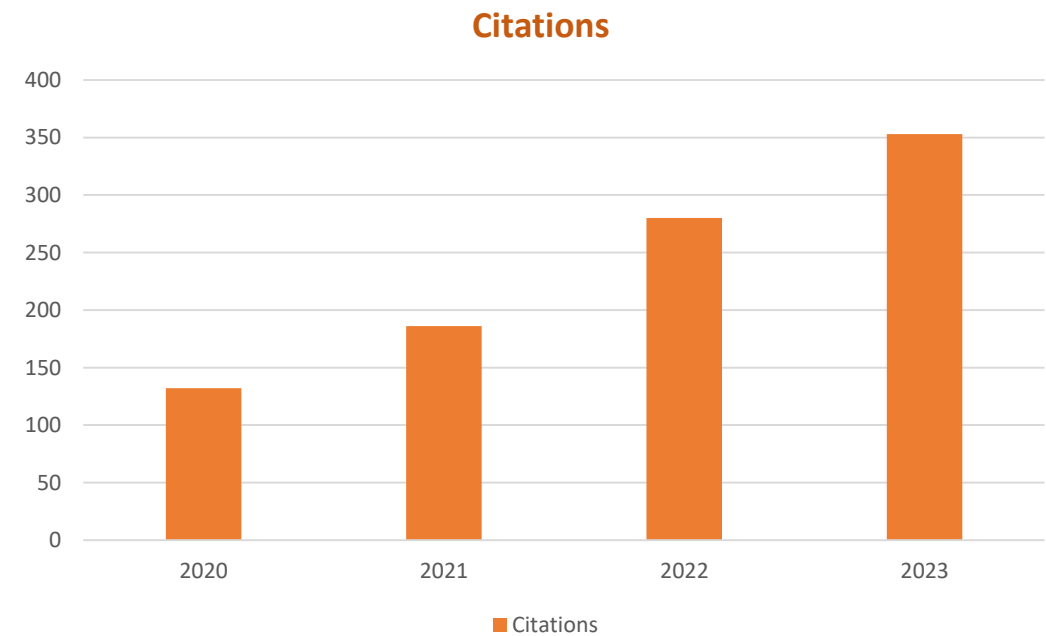
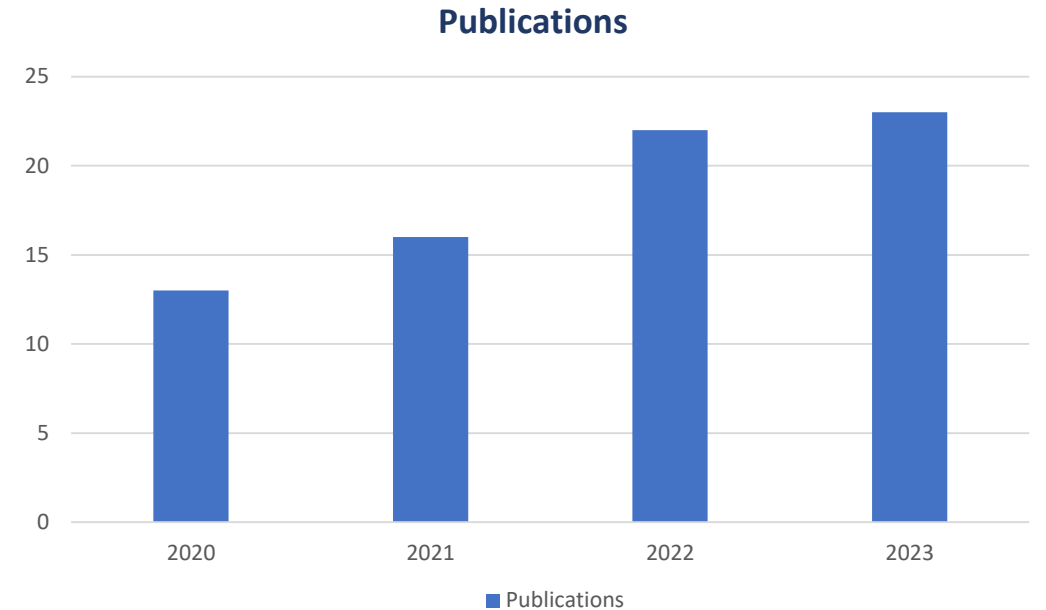
# OUR MAIN ACTIVITIES

The laboratory has **experience** in conducting:

- multicentric observational studies
- clinical measures validation
- robot- and sensor-derived measures validation
- cross cultural adaptation
- case series
- usability and feasibility
- single subject design
- RCTs
- medical device testing

Our **research** is mainly **aimed** at:

- understanding how an **exposure** affects patients' **outcome**
- generating outcome **prediction models**
- Innovating and improving rehabilitation **assessment** and **treatment protocols**
- comparing treatments' effectiveness
- **supporting technological development** through patients' and experts' opinion
- **testing medical devices**



# Technologies for rehabilitation and analysis of movement



Gloreha IDROGENET  
s.r.l.



MOTORE – Humanware



C-mill - Motek



Walker view - TecnoBody



Tyrosolution - Tyromotion



D-Wall - Tyromotion



Optogait - Microgate

# Neurophysiology, neuromodulation and telerehabilitation

2 5-channel **Electromyography and Evoked Potentials Equipment**



1 Be-PLUs 64-Channel **Electroencephalograph**



Star-Stim **tDCs2** systems for EMS **tDCs1**



**Repetitive Magnetic Stimulator** for Neuromodulation (r-100 Magventure



Khymeia Home Kit



Khymeia VRRS



# Some ongoing projects



## ACTIVE AGEING

**AGAPE** - Active aGeing And Personalised service's Ecosystem, AAL 2021

**Age-IT** - A novel public-private alliance to generate socioeconomic, biomedical and technological solutions for an inclusive Italian ageing society, PE8 PNRR

## STROKE

**STRATEGY** - Design and national implementation of a registry of post-stroke rehabilitation patients for systematic evaluation of processes and outcomes and development of data-driven prediction models

**REDIRECT** - A RandomizED controlled trial on the effects Induced by Robot-assistED rehabllitation versus occupational therapy on the functional recovery of the upper limb in chronic post-stroke subjECTs

**SCORES** – A multicenter RCT on the effects of upper limb robotic rehabilitation on sensory and cognitive impairments in subjects with stroke. The SCORES (Sensory and Cognitive Outcomes of Robotic Exercises in Stroke) study (PI M.Germanotta, Fdg Rome)

## PARIKINSON'S DISEASE

**VIRTREAD-PD** – A Randomized Controlled Trial to compare the effectiveness of a customized Virtual Reality integrated treatment with a conventional tradmill progression in patients with Parkinson's Disease

**ODIN WEARnCARE** A decision support system for personalized pathways in Parkinson disease



## SEVERE ACQUIRED BRAIN INJURIES

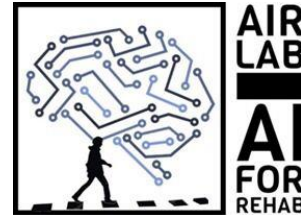
**PRABI** – Predictive factors of intensive inpatient rehabilitation of sABI



## REHABILITATION TECHNOLOGIES

**THE** - Tuscany Health Ecosystem; SPOKE 3: Advanced technologies, methods and materials for human health and well-being (spoke leader UNIFI; partner affiliati UNIPI, UNISI, CNR, SSSA, IMT, Esaote, Museo Galileo), PNRR SPOKE 3

# National and International Collaborations

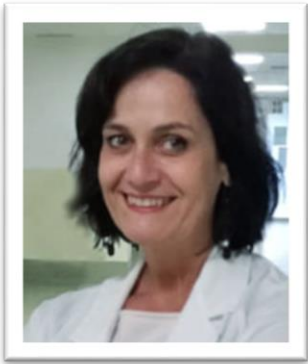


SAN CAMILLO IRCCS SRL

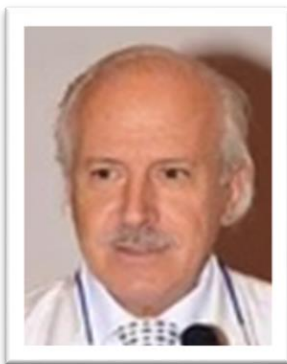




# Scientific Board



**Francesca Cecchi, AP**  
MD, Psychiatrist, Geriatrician  
DMSC-FDG



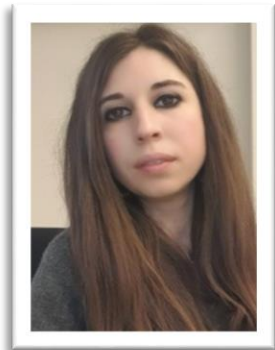
**Claudio Macchi, FP**  
Director of the Rehabilitation Unit  
IRCCS Firenze



**Marco Baccini, AdjP**  
PT, MSc

Francesca Cecchi, scientific director; [publications](#)  
Claudio Macchi, scientific board, [publications](#)  
Marco Baccini, scientific board; [publications](#)

# Logistic Coordinators



**Donata Bardi**  
PSY, Msc  
Study coordinator

Donata Bardi, MSc; Study coordinator - [publications](#)



**Chiara Castagnoli**  
PT, MScs  
Bedside researchers' Coordinator

Chiara Castagnoli MScs, PT: bedside research coordinator - [publications](#)



**Bahia Hakiki, AP**  
MD, PhD, Neurologist  
DMSC-FDG



**Gemma Lombardi**  
MD, PhD Neurologist  
NEUROFARBA-FDG

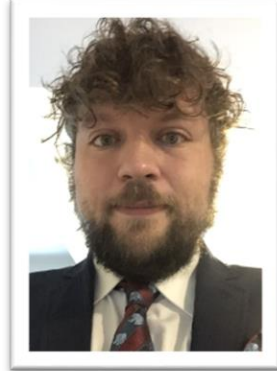
Bahia Hakiki, MD, PhD: severe acquired brain injury group coordinator – [publications](#)  
Gemma Lombardi, MD, PhD: Parkinson (PD) Group coordinator - [publications](#)  
Antonello Grippo, MD: neurofisiopathology group (NF) coordinator - [publications](#)  
Stefano G. Doronzio PT, Msc, PhDs: Robotics group coordinator - [publications](#)  
Diego Longo, PT, Msc, PhD: Healthy Aging group coordinator - [publications](#)



**Antonello Grippo**  
MD, PhD, Neurophysiologist  
AOUC-FDG



**Stefano Doronzio**  
PT, Msc, PhDs  
DMSC-FDG



**Diego Longo**  
PT, Msc, PhD  
DMSC

# Group Coordinators

# The Team



UNIVERSITÀ  
DEGLI STUDI  
FIRENZE  
DIPARTIMENTO DI  
MEDICINA SPERIMENTALE  
E CLINICA

**Maria Angela Bagni** → [publications](#)  
FP Physiology

**Giulio Cherubini** → [publications](#)  
PT, PhD St.

**Lorenzo Chiari**  
PT

**Mario De Marco**  
PT, MSc

**Chiara De Santis** → [publications](#)  
MD

**Alessio Faralli** → [publications](#)  
PSY, PhD

**Julieta Giacani**  
OT

**Cecilia Resente,**  
MD

**Guido Santini**  
PT

**Michele Piazzini**  
PT, MSc

**Maria Anna Szczepanska**  
OT, MSc



**Fondazione  
Don Carlo Gnocchi  
Onlus**

**Teresa Barretta**  
MD, Physiatrist

**Monica Bernabè**  
PT

**Rachele Burali** → [publications](#)  
NPP Technician

**Tommaso Ciapetti** → [publications](#)  
PT

**Francesca Ciullini**  
PT

**Sara della Bella**  
PSY, MSc

**Maria Luigia Del Vicario**  
PT

**Agnese De Nisco**  
Speech Therapist

**Francesca Draghi** → [publications](#)  
ST

**Tommaso La Russa**  
PT

**Daniela Maccanti**  
PT

**Sara Marignani** → [publications](#)  
Speech Therapist

**Annalisa Orioli**  
MD. Physiatrist

**Anita Paperini** → [publications](#)  
PT

**Ilaria Pellegrini** → [publications](#)  
ST

**Chiara Pedrini**  
PSY, Msc

**Samuele Pinna**  
PSY, MSc

**Angela M. Politi** → [publications](#)  
PT

**Cristina Polito** → [publications](#)  
PSY, PhD

**Anna Maria Romoli** → [publications](#)  
MD, Neurologist

**Alessandro Sodero** → [publications](#)  
MD, Neurologist, PhDs

**Tanita Toci**  
NPP technician

# Contact us!



Scan me!

[francesca.cecchi@unifi.it](mailto:francesca.cecchi@unifi.it)  
[dbardi@dongnocchi.it](mailto:dbardi@dongnocchi.it)

[sdoronzio@dongnocchi.it](mailto:sdoronzio@dongnocchi.it)  
[diego.longo@unifi.it](mailto:diego.longo@unifi.it)

<https://www.dmsc.unifi.it>  
<https://www.dongnocchi.it/>

