



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

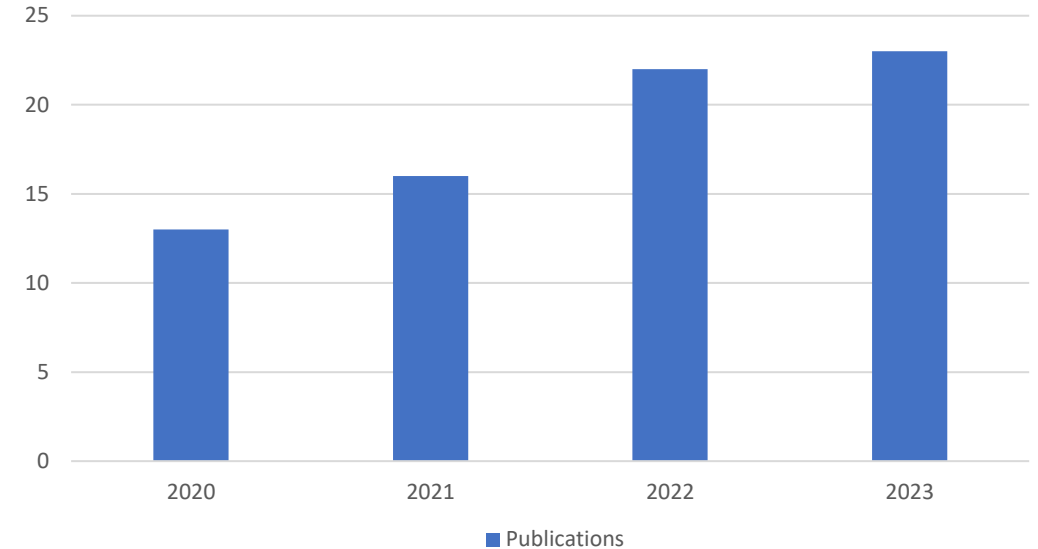
The laboratory has **experience** in conducting:

- 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

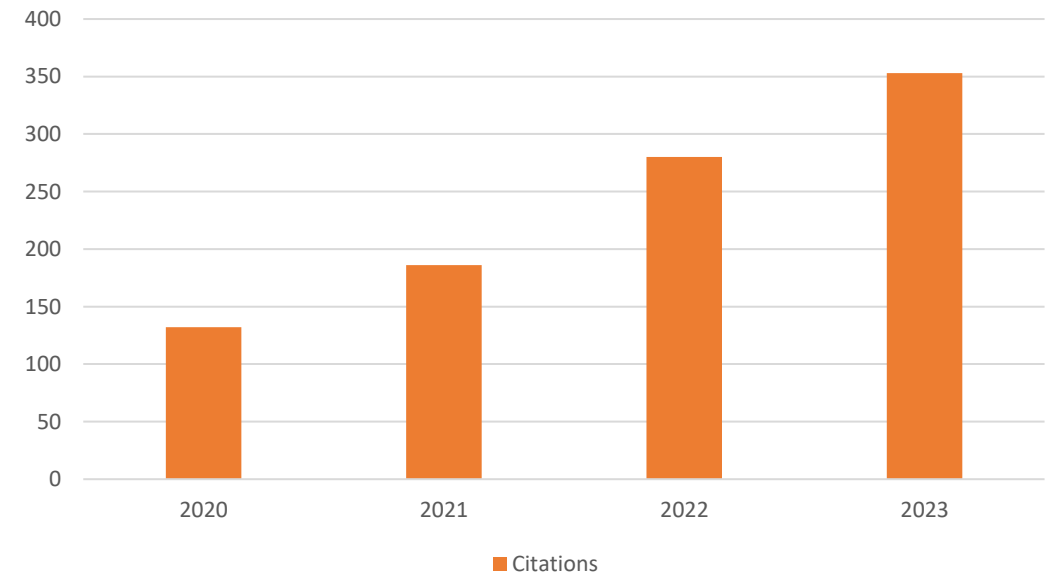
Our **research** is mainly **aimed** at:

- 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**

Publications



Citations



Technologies for rehabilitation and analysis of movement



Glorea 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 rehabilitation 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)

PARKINSON'S DISEASE

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

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



SEVERE ACQUIRED BRAIN INJURIES

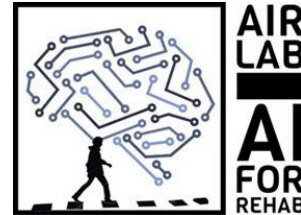
PRABI – Predictive factors of intensive inpatient rehabilitation of sABI



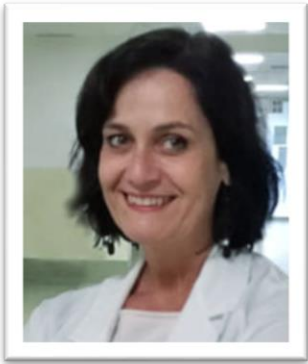
REHABILITATION TECHNOLOGIES

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

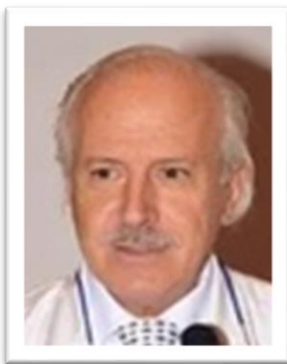
National and International Collaborations



Scientific Board



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



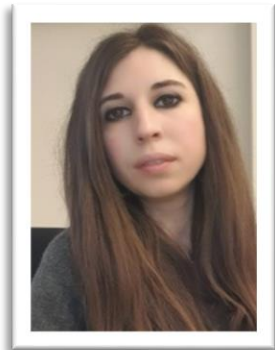
Claudio Macchi, FP
Director of the Rehabilitation Unit
IRCCS Firenze



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
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Bedside researchers' Coordinator

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



Bahia Hakiki, AP
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Bahia Hakiki, MD, PhD: severe acquired brain injury group coordinator - [publications](#)



Gemma Lombardi
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Gemma Lombardi, MD, PhD: Parkinson (PD) Group coordinator - [publications](#)



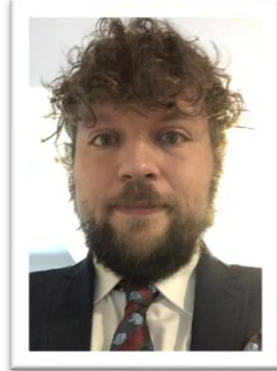
Antonello Grippo
MD, PhD, Neurophysiologist
AOUC-FDG

Antonello Grippo, MD: neurofisiopathology group (NF) coordinator - [publications](#)



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Stefano G. Doronzio PT, Msc, PhDs: Robotics group coordinator - [publications](#)



Diego Longo
PT, Msc, PhD
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Diego Longo, PT, Msc, PhD: Healthy Aging group coordinator - [publications](#)

Group Coordinators

The Team



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