

PROMISE @LAB



UNIVERSITÀ
DEGLI STUDI
FIRENZE

Dipartimento di
Medicina Sperimentale
e Clinica



**Fondazione
Don Carlo Gnocchi**

Scientific Director:
prof. FRANCESCA CECCHI,
AP, MD



Joint Research Lab

University of Florence - Department of Experimental and Clinical Medicine (DMSC)



UNIVERSITÀ
DEGLI STUDI
FIRENZE

DIPARTIMENTO DI
MEDICINA SPERIMENTALE
E CLINICA

Multidisciplinary Research and Innovation at DMSC

- Joint research environment; multiple scientific disciplines
- Focus on high-quality clinical and experimental research
- Strong commitment to scientific and technological innovation
- Advanced academic and professional training for students



UniFI Departments affiliated to PROMISE@LAB

Health sciences
(DSS)



Neurosciences-Pharmacological-Pediatric
(NEUROFARBA)



Industrial Engineering
(DIEF)





IRCCS Fondazione don Carlo Gnocchi, Florence

National Excellence in Rehabilitation

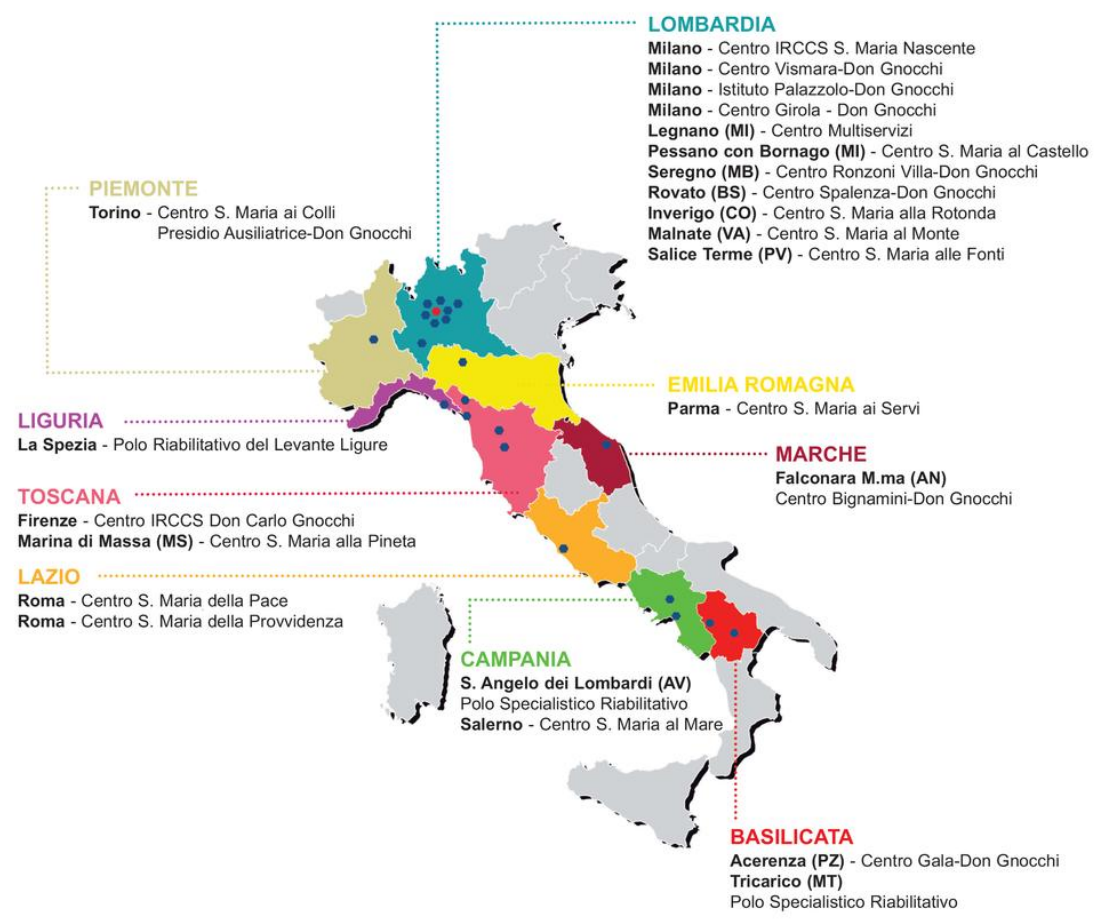


• 3rd sector Care and Rehab Institution: 27 Centres across Italy

• Scientific Institute for Care and Research (IRCCS - Milan and Florence)

• Complex Neuromotor Rehab University-directed Structure UniFI-FDG IRCCS Florence: capacity: 100 beds + 100 outpatients/day

• Strong clinical environment supporting translational research



Mission and Expertise

INTERDISCIPLINARY RESEARCH GROUP



Physiatrists, Geriatricians, Neurologists,
Physical Therapists, Speech Therapists,
Occupational Therapists, Psychologists

DEVELOPMENT AND VALIDATION

Outcome measures,
Rehabilitation interventions,
Rehabilitation technologies



FOCUS



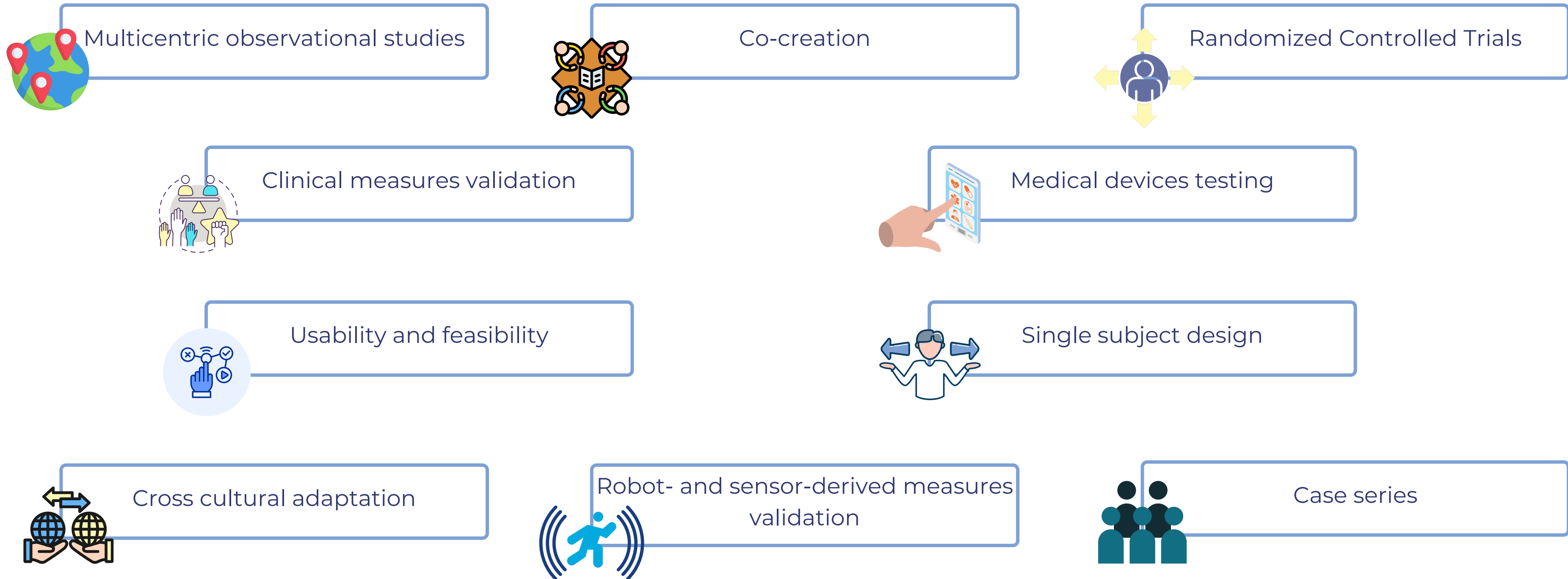
Neuromotor disability
Neurological rehab (Stroke, PD, sABI)
Healthy and Active Aging

INNOVATION

Co-creation with stakeholders
Patient and Public Involvement
Use of AI tools



Main activities

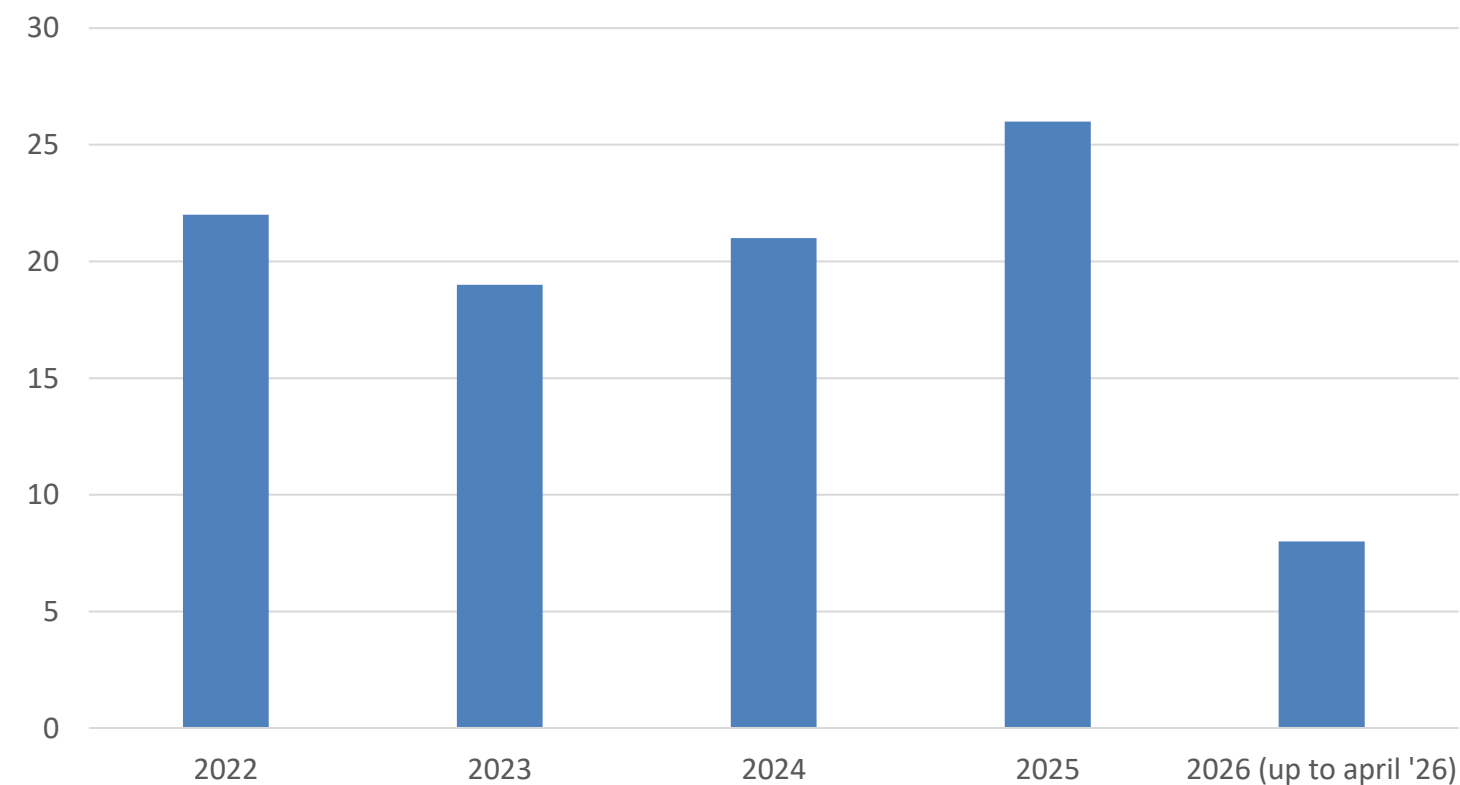




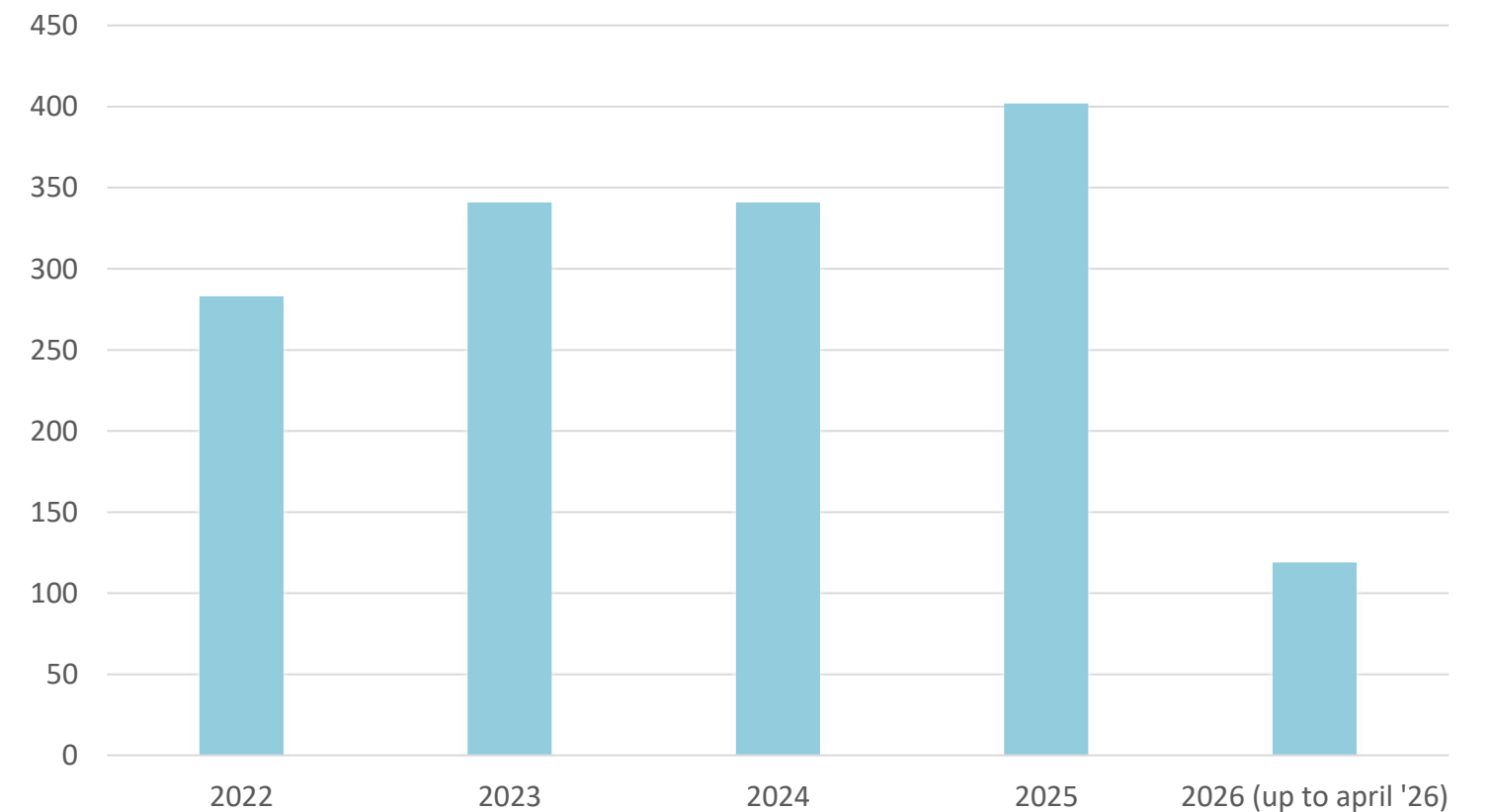
Research focus

- Innovating and improving rehabilitation **assessment and treatment protocols**
- Comparing treatment effectiveness
- Supporting technological development through **co-creation with stakeholders**
- Medical devices testing
- Exposures affecting patients' outcomes
- Co-developing outcome **prediction models**

PUBLICATIONS



CITATIONS



End-to-End technologies for rehabilitation



Gloreha IDROGENET s.r.l.



MOTORE – Humanware



C-mill - Motek



Walker view - TecnoBody



Tyrosolution - Tyromotion



D-Wall - TecnoBody



Optogait - Microgate

Virtual Reality, Neurophysiology, Neuromodulation - IRCCS FDG Florence Facility



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

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



Repetitive Magnetic Stimulator for Neuromodulation (r-100 Magventure)



Khymeia Home Kit



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



ONGOING RESEARCH

ACTIVE AGEING

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

INFORMA - piattaforma iNnovativa Funzionale e adattiva per prOmuoveRe un invecchiaMento sAno e attivo

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

BIG-MENTI - National Database of the Virtual Institute of CErebrovascular Diseases - a multicentric observational study (PI P. Calabresi, IRCCS Gemelli Rome)

PESO - Parametrare Esiti Stroke Ospedalieri - Outcomes of patients with acute cerebrovascular event - a prospective longitudinal observational study
(PI P. Palumbo, USLToscana Centro)

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 - Sensory and Cognitive Outcomes of Robotic Exercises in Stroke - a multicentric RCT (PI M. Germanotta, FdG Rome)

BE-TOP - Biomarcatori Elettroencefalografici per l'ottimizzazione e personalizzazione della Terapia di Osservazione dell'azione in Pazienti con esiti di ictus in fase cronica- New strategies to maximize the effectiveness of functional rehabilitation of the upper limb - a multicentric clinical trial (PI F. Infarinato, IRCCS San Raffaele Rome)

ONGOING RESEARCH

NEURODEGENERATIVE DISEASES

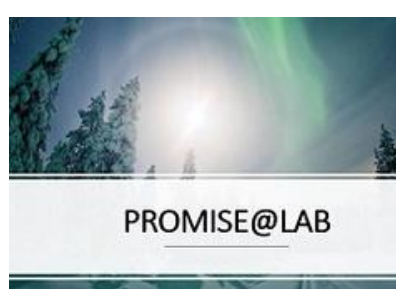
SANDY-POC - An Innovative method in SALiva samples for the early differential diagnosis of high-impact NeuroDegenerative diseases through Raman spectroscopy - a multicentric prospective observational study

MINERVA - Nuovo metodo per la diagnosi delle malattie neurodegenerative basato sulla profilazione biochimica della saliva - a multicentric prospective observational study (PI P. Arcuri, FdG Milan)

INERTIAL - DefINizione di ReliabiliTy e valldity delle misure derivate da sensore in persone con mALattia di Parkinson - Clinical investigation with a pre-market medical device.

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



European Projects - PROMISE@LAB Leading Partner: THCS ROOMMATE

ROOMMATE

A cohort multiple Randomized Clinical Trial - AggRegated system Of sensOrs and Multimedia Monitors: technology for innovAtion and personalizaTion of rEhabilitation care.

The ROOMMATE Consortium aims are to:

- identify and develop **innovative technological solutions** aimed at relieving the pressure on health and care facilities;
- overcome current barriers to the implementation of technological solutions in the continuum of rehabilitation, addressing **the issues of accessibility, sustainability, and equity of care for all**;
- foster a **shift of current procedures** toward digitization of evaluation, treatment, monitoring and rehabilitation, and adopting sustainable and user friendly technologies to promote equity and accessibility of the developed system;
- support patients, as well as researchers and healthcare providers, **to improve quality of care**, and support caregivers to care for their close ones



Fondazione Don Carlo Gnocchi



UNIVERSITÀ DEGLI STUDI FIRENZE
DIEF
DIPARTIMENTO DI INGEGNERIA INDUSTRIALE

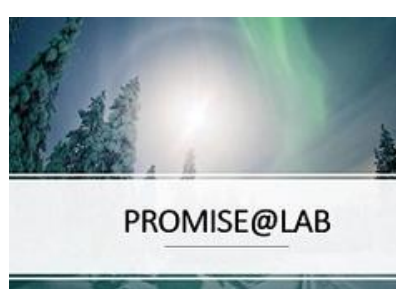
TU Delft



emovo
rediscover movement



Funded by the European Union



European Projects - PROMISE@LAB Leading Partner: THCS INTEGRA

INTEGRA

Co-creation of an INnovative TR Ecosystem accessible on a GRAnd scale
to persons with disabilities living in the community

The INTEGRA Consortium aims to:

- **co-create a scalable and adaptable telerehabilitation (TR) ecosystem** integrated into primary and community care, tailored to different European healthcare contexts;
- **improve functioning, participation and quality of life** of persons with disabilities living in the community through personalized, home-based TR services;
- **overcome barriers to TR adoption** (regulatory, technological, organizational and socio-cultural), promoting equity, accessibility and digital inclusion;
- **develop a multidimensional EU knowledge base** to benchmark best practices and support evidence-based redesign of TR services across Europe;
- **support patients, caregivers and healthcare professionals** through co-creation, e-health coaching and sustainable service models, strengthening continuity of care.



Funded by
the European Union

European Projects - PROMISE@LAB Leading Partner: EP PerMed Education Call 2025

PRISM

Personalised Rehabilitation: the Interdisciplinary Management of non-specific Low Back Pain

The **PRISM** project aims to:

- develop a scalable and reusable asynchronous training programme to support the implementation of **Personalised Interdisciplinary Rehabilitation (PIR)** for non-specific low back pain across European healthcare and educational contexts;
- enhance healthcare professionals' competences in **multidimensional assessment**, clinical reasoning, and personalisation of rehabilitation interventions based on best evidence and real clinical cases;
- promote **interdisciplinary collaboration**, shared decision-making, and patient engagement as core components of personalised rehabilitation pathways;
- address cultural, educational, and organisational barriers that currently limit the adoption of biopsychosocial and personalised approaches in low back pain management;
- contribute to the sustainability of European healthcare systems by improving **Personalised Medicine literacy**, enabling knowledge translation into clinical practice, and supporting long-term reuse of training contents in academic and professional education.



PROMISE@lab



Consiglio Nazionale
delle Ricerche



SCUOLA
NORMALE
SUPERIORE



Sant'Anna

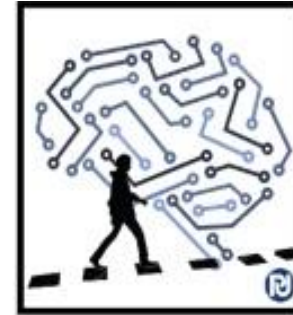
Scuola Universitaria Superiore Pisa



Servizio
Sanitario
della
Toscana



rete IRCCS delle neuroscienze
e della neuroriabilitazione



AIR
LAB
AI
FOR
REHAB



Università
di Genova

Dibris



Age Florence

Florence Ageing Research Center

HUMANITAS
RESEARCH HOSPITAL



MEDEA



Roessingh

Centrum voor Revalidatie



Azienda
Ospedaliero
Universitaria
Careggi



IRCCS San Raffaele



Servizio
Sanitario
della
Toscana



AZIENDA OSPEDALIERO
UNIVERSITARIA PISANA

LUXEMBOURG
INSTITUTE OF SCIENCE
AND TECHNOLOGY

LIST



emovo

rediscover movement

INAIL
CENTRO PROTESI

LABION
LABORATORY OF NANOMEDICINE AND CLINICAL BIOPHOTONICS



Cochrane
Rehabilitation

TU Delft



PROMISE@LAB



Scientific Board



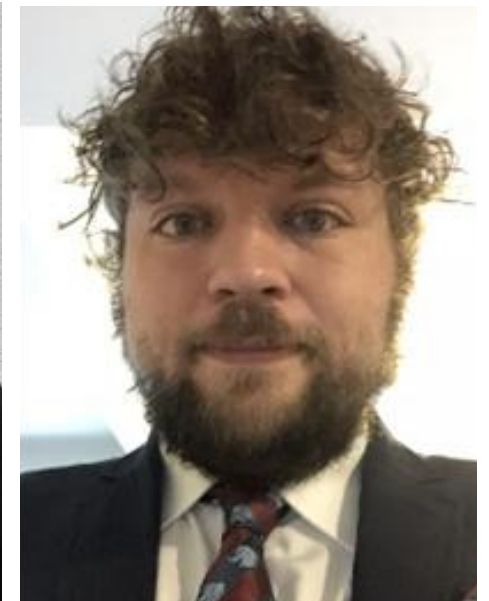
**Francesca Cecchi, AP
Scientific Director**
MD, Psychiatrist, Geriatrician
DMSC-FDG
[publications](#)

**Marco Baccini, AdP
Scientific Co-Director**
PT, MCs DMSC-FDG
[publications](#)

Claudio Macchi, FP
Geriatrician, Cardiologist
FDG
[publications](#)

Bahia Hakiki, AP
MD, PhD, Neurologist, AP
DMSC-FDG
[publications](#)

Group Coordinators



Stefano Doronzio
PT, Msc, PhD
DMSC-FDG
[publications](#)

Giulio Cherubini
PT, Msc, PhDs
DMSC
[publications](#)

Diego Longo
PT, Msc, PhD
DMSC
[publications](#)

LAB Coordinators



Donata Bardi
PSY, Msc -FDG
Project Manager
[publications](#)

Chiara Castagnoli
PT, MSc -FDG
Research Group Coordinator
[publications](#)

Stefano G. Doronzio PT, MSc, PhDs: Robotics group coordinator
Giulio Cherubini, PT, MSc, PhDs: Parkinson's Disease group coordinator
Diego Longo, PT, Msc, PhD: Healthy Aging group coordinator
Donata Bardi, PSY, MSc; Project Manager
Chiara Castagnoli, PT, MSc: bedside and benchside Research Coordinator



TEAM



UNIVERSITÀ
DEGLI STUDI
FIRENZE

DIPARTIMENTO DI
MEDICINA SPERIMENTALE
E CLINICA

Maria Angela Bagni

FP Physiology; [publications](#)

Mario De Marco

PT, MSc; [publications](#)

Marta Massei

PSY, MSc

Michele Piazzini

PT, MSc, PhDs; [publications](#)



Fondazione Don Carlo Gnocchi

Virginia Ambrogi

PSY, MSc; [publications](#)

Monica Barnabè

PT; [publications](#)

Tommaso Ciapetti

PT, MScs; [publications](#)

Agnese De Nisco

ST; [publications](#)

Maria Luigia Del Vicario

PT, MScs; [publications](#)

Julieta Giacani

OT; [publications](#)

Sara Marignani

ST; [publications](#)

Ilaria Pellegrini

ST, MSc; [publications](#)

Chiara Pedrini

PSY, MSc; [publications](#)

Angela M. Poli

PT; [publications](#)

Olimpia Salvini

PSY, MSc

Alessandro Soderò

MD, Neurologist, PhDs;
[publications](#)

PROMISE@lab

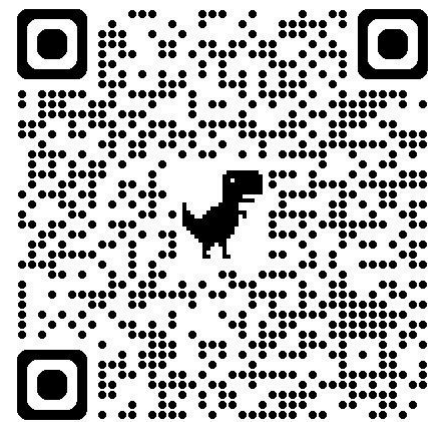
Contact us

LinkedIn

PROMISE@LAB

francesca.cecchi@unifi.it

dbardi@dongnocchi.it



THANK YOU!

PROMISE@LAB

