

## CME (CONTINUING MEDICAL EDUCATION)

To obtain the CME credits, the participants must: be specialized exclusively in the disciplines indicated in the program, attend 90% of the scientific lectures, pass the learning test (multiple-choice questionnaire), deliver the filled out forms to the secretarial desk.

## EDUCATION

The objective of national interest: technical-professional contents (knowledge and skills) specific to each profession

- Acquisition of technical-professional skills: technological innovation: evaluation, improvement of management processes of biomedical technologies and medical devices. Health technology assessment (29)
- Acquisition of process skills: clinical documentation, diagnostic and rehabilitative and clinical-assistance procedures, assistance profiles, therapeutic profiles (3)
- Acquisition of system skills: application in practice of the principles and procedures of evidence based practice (ebm - ebn - ebp) (1)

### Accredited professions:

- Physiotherapist
- Nurse
- Medical doctor (All disciplines)
- Occupational therapist

Event Code: 1449-276904

Maximum number of participants: 150

### Course Objective:

Application in daily practice of the principles and procedures of the evidence based practice (EBM - EBN - EBP)

Education hours: 7

The registration form is available on the following site:

<https://ecm.unisanraffaele.gov.it/course/index.php?categoryid=8>

Registration deadline: Monday, 25<sup>th</sup> November 2019

## DATE AND PLACE

Monday, 9<sup>th</sup> December 2019  
SAN RAFFAELE SPA  
Via di Val Cannuta 247, Rome

## PROVIDER (ID ECM 1449) IRCCS San Raffaele

Pisana

IRCCS SAN RAFFAELE PISANA ROME  
Via della Pisana, 235 - 00163 Rome  
Phone: +39 06 5225 2030  
Web Site: [www.sanraffaele.it](http://www.sanraffaele.it)

## ORGANIZING SECRETARIAT

For information:

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Requested endorsements:

SIMFER

SIN

SIRN

ISPRM

REGIONE LAZIO

MINISTERO DELLA SALUTE

CONSIGLIO DEI MINISTRI

# REHABILITATION

## a future challenge of Robotics

President of the Congress:  
*Marco Franceschini*

RESIDENTIAL  
EVENT

Monday, 9<sup>th</sup> December 2019  
IRCCS San Raffaele - Rome

*Simultaneous translation is provided*

# REHABILITATION

## a future challenge of Robotics

### RATIONALE

Numerous evidence-based efficacy studies demonstrate that a high-intensity, repetitive early rehabilitation can promote the recovery of specific impairments following neurological disease and, thus, improving the body functions. Robotic technologies represent an innovative therapeutic opportunity for patients not only regarding their effect on motor recovery but also for optimizing the quality of treatments and, as a result, improving the autonomy of the patient and his/her quality of daily living and participation to social life. Accordingly, robotics supporting rehabilitation activities allows patients with severe disability to achieve a better quality of life.

Also at the IRCCS San Raffaele Pisana Rome, robotic systems are applied to perform more effective and personalized rehabilitation treatments, providing a significant contribution to the excellent routine health care and scientific research activities.

This cutting-edge scientific event emphasizes the importance of robotics for the future of rehabilitation. Several international and national world-leading experts in Robotic Rehabilitation will share and discuss their most recent experiences and findings related to this theme.

### PRESIDENT OF THE CONGRESS

**Marco Franceschini**

Coordinator of neuro-rehabilitation research  
IRCCS San Raffaele Pisana Rome  
Full professor in Physical Medicine and Rehabilitation  
San Raffaele University Rome

### FACULTY

Irene Aprile, Rome  
Donatella Bonaiuti, Monza  
Dino Bramanti, Messina  
Federica Bressi, Rome  
Maria Chiara Carrozza, Milan  
Maria Francesca De Pandis, Cassino  
Alberto Esquenazi, Philadelphia  
Giorgio Felzani, Sulmona  
Piero Fiore, Bari  
Marco Franceschini, Rome  
Walter Frontera, Puerto Rico  
Francesca Gimigliano, Naples  
Alessandro Giustini, Porto Potenza Picena  
Michela Goffredo, Rome  
Sandro Iannaccone, Milan

Francesco Infarinato, Rome  
Hermano Igo Krebs, Boston  
Crocifissa Maria Lanzilotti, Ceglie Messapica  
Domenica Le Pera, Rome  
Thierry Lejeune, Brussels  
Stefano Mazzoleni, Pisa  
Franco Molteni, Costa Masnaga  
Luca Padua, Rome  
Federico Posteraro, Camaiore  
Sanaz Pournajaf, Rome  
Paolo Maria Rossini, Rome  
Valter Santilli, Rome  
Fabrizio Tagliavini, Milan  
Fabrizio Vecchio, Rome  
Loredana Zollo, Rome

## SCIENTIFIC PROGRAM

Monday, 9<sup>th</sup> December 2109  
IRCCS San Raffaele Rome

### Monday, 9<sup>th</sup> December 2019

#### 9.00-11.00 I SESSION

Chairs: **Marco Franceschini**  
**Paolo M. Rossini**

- 9.00 **Welcome address**  
Greetings from the authorities
- 9.30 **Introduction:**  
**Marco Franceschini**
- 9.40 **Brain plasticity:**  
from synapses to connections  
**Paolo Maria Rossini**
- 10.00 **Biology of functional recovery:**  
the role of robotics  
**Franco Molteni**
- 10.20 **Robotic interventions**  
for acute and chronic  
rehabilitation of gait  
**Alberto Esquenazi**
- 10.45 **End-effector and**  
exoskeleton robots in  
neurological rehabilitation  
**Michela Goffredo**
- 11.00 DISCUSSION
- 11.20 **BREAK**

#### 11.30-12.50 II SESSION

Chairs: **Pietro Fiore**  
**Francesca Gimigliano**

- 11.30 **Robotics and research in Italy**  
**Maria Chiara Carrozza**
- 11.50 **Upper limb robotic assisted**  
rehabilitation after stroke:  
review of the evidence  
**Thierry Lejeune**
- 12.10 **Tailoring robotic treatment**  
and assessment  
**Federico Posteraro**
- 12.30 **Robot Assisted Training for the**  
upper limb after stroke and  
biomarkers to predict outcome  
**Hermano Igo Krebs**
- 12.50 DISCUSSION
- 13.00 **BREAK**

#### III SESSION - Lecture

Chair: **Francesca Gimigliano**

- 14.00 **ISPRM & Robotics: opinions**  
and future challenges  
**Walter Frontera**

#### 14.30-15.40 IV SESSION

**ITALIAN EXPERIENCES**  
**ON ROBOTICS**

Chairs: **Dino Bramanti**  
**Luca Padua**

- 14.30 **Upper limb robotic rehabilitation**  
in subacute stroke patients.  
A multicenter study of Fondazione  
Don Carlo Gnocchi  
**Irene Aprile**
- 14.40 **Italian rehabilitation multicenter**  
studies: a critical view  
**Donatella Bonaiuti**
- 14.50 **Innovative neurological multimodal**  
approach to assess new clinical,  
predictive and prognostic markers:  
role of high-field MRI, genetic  
analysis and computer assisted  
rehabilitation  
**Dino Bramanti**
- 15.00 **Update in the treatment of**  
patients with spinal cord injuries  
**Giorgio Felzani**
- 15.10 **Clinical experience in robotic**  
applications: Upgrading  
rehabilitation education  
and research  
**Alessandro Giustini**
- 15.20 **Robot-assisted treatments for**  
neurorehabilitation: assessment  
metrics and integration among  
technologies  
**Stefano Mazzoleni**

- 15.30 **Upper-limb rehabilitation**  
robotics and bionics: UCBM  
experience  
**Federica Bressi**  
**Loredana Zollo**

- 15.40 **DISCUSSION AND CONCLUSIONS**  
**Alberto Esquenazi**  
**Franco Molteni**

#### 16.10 **ROUNDTABLE** **WHICH INNOVATIVE** **TECHNOLOGIES ARE** **THE FUTURE?**

Moderators:

**Fabrizio Tagliavini**  
**Valter Santilli**

Participants:

**Maria Francesca De Pandis**  
**Sandro Iannaccone**  
**Francesco Infarinato**  
**Maria Crocifissa Lanzilotti**  
**Thierry Lejeune**  
**Domenica Le Pera**  
**Sanaz Pournajaf**  
**Fabrizio Vecchio**

Discussion and conclusions  
**Walter Frontera**  
**Federico Posteraro**

- 18.00 **CME LEARNING VERIFICATION**