



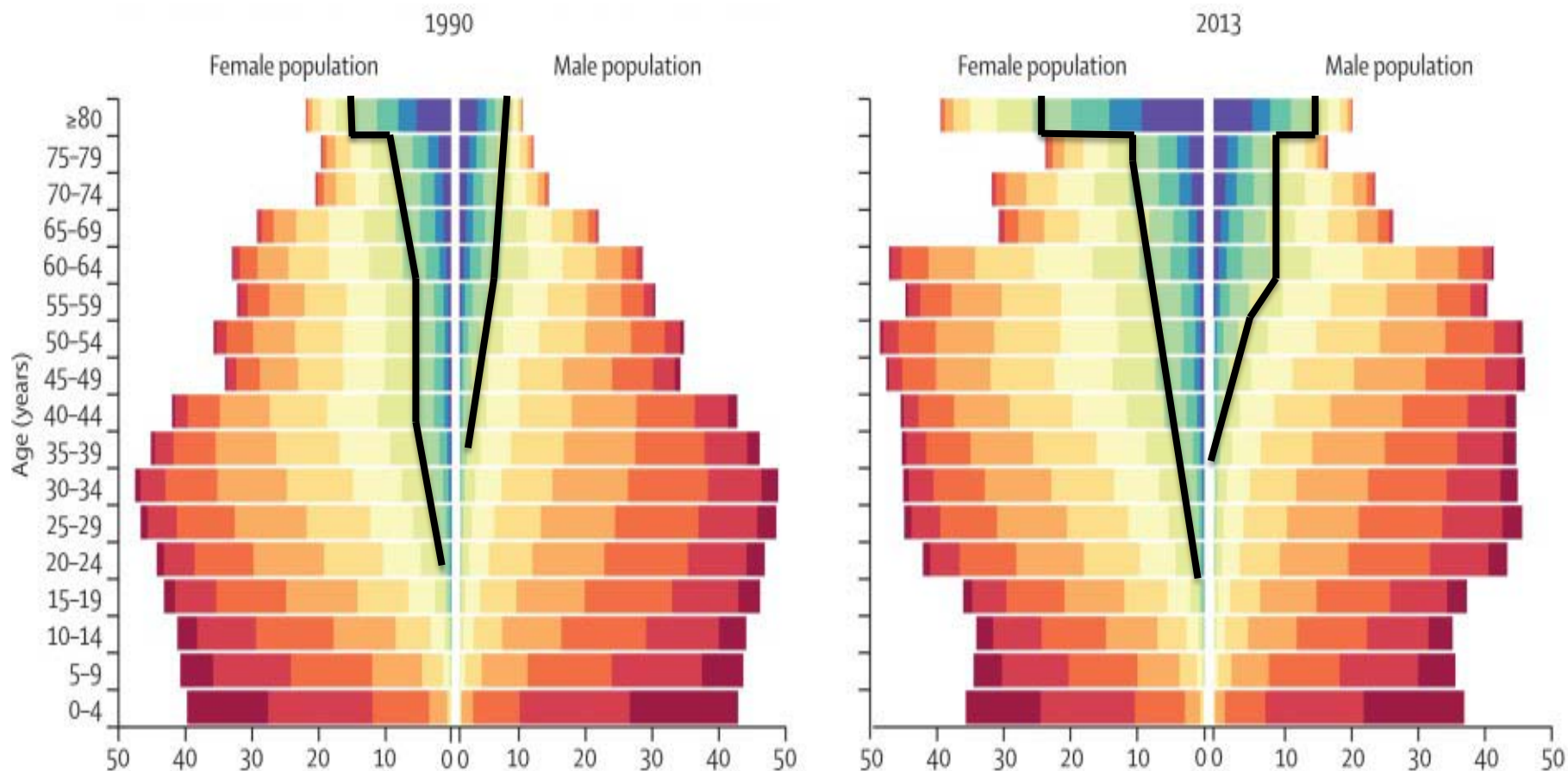
Scientific research in FDG and relation with care and rehabilitation activities

Paolo Mocarrelli
FDG Scientific Director

17-18 Nov 2016, Milan

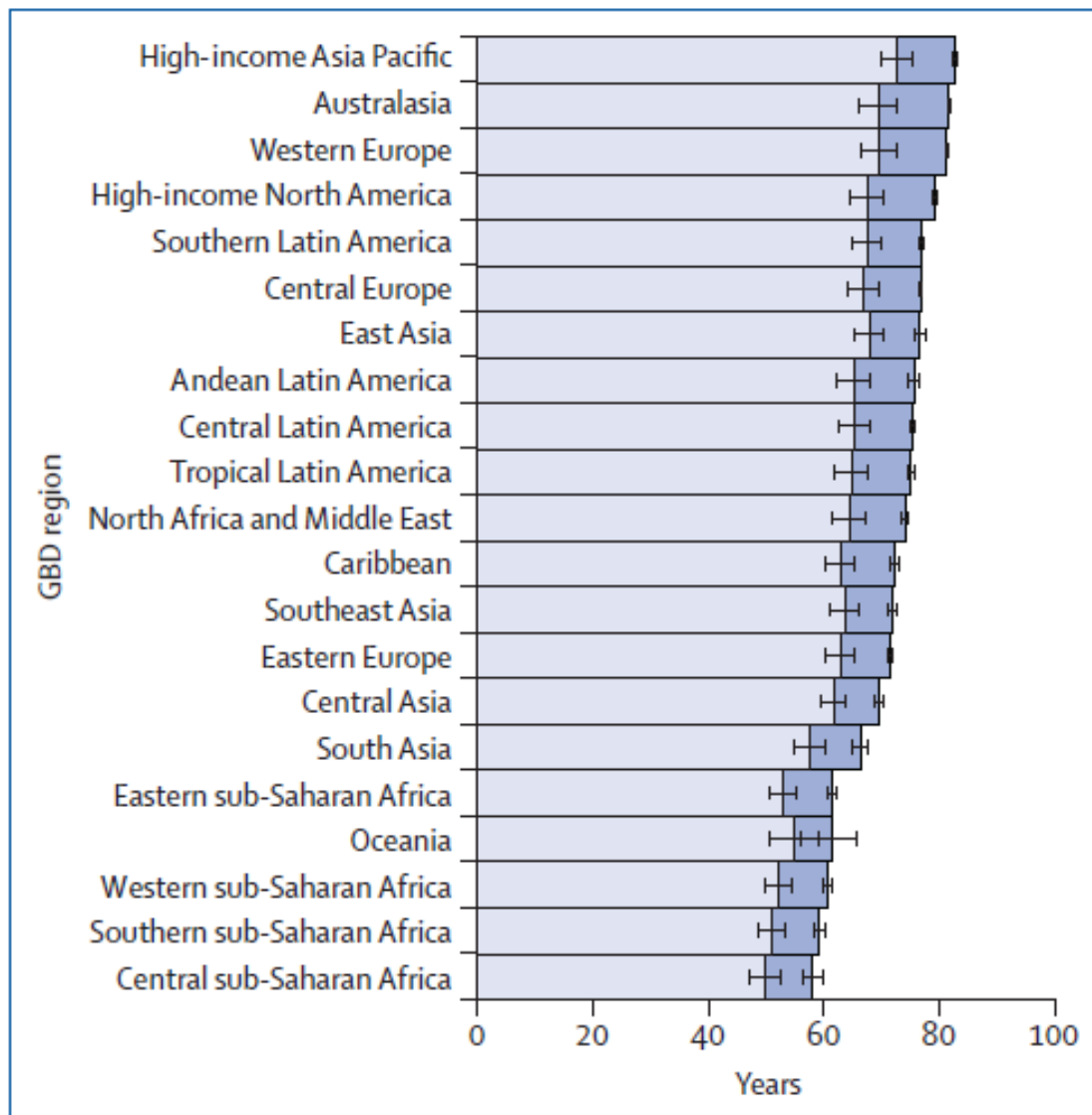
LIFE EXPECTANCY & DISABILITY

Number of sequelae



Population pyramids for developed countries [mln of people]

LIFE AND DISABILITY



... “ about **an eighth of life expectancy** worldwide is associated with **disability** ...
It is clear that more and better data about disability are needed” ...

2 IRCCS [Milan and Florence] and 26 Centres

REASERCH IN NUMBER *[on average]*

Researchers

150

Collaborations

74

Organized conferences

25

New Projects (Nat. and Internat.)

15

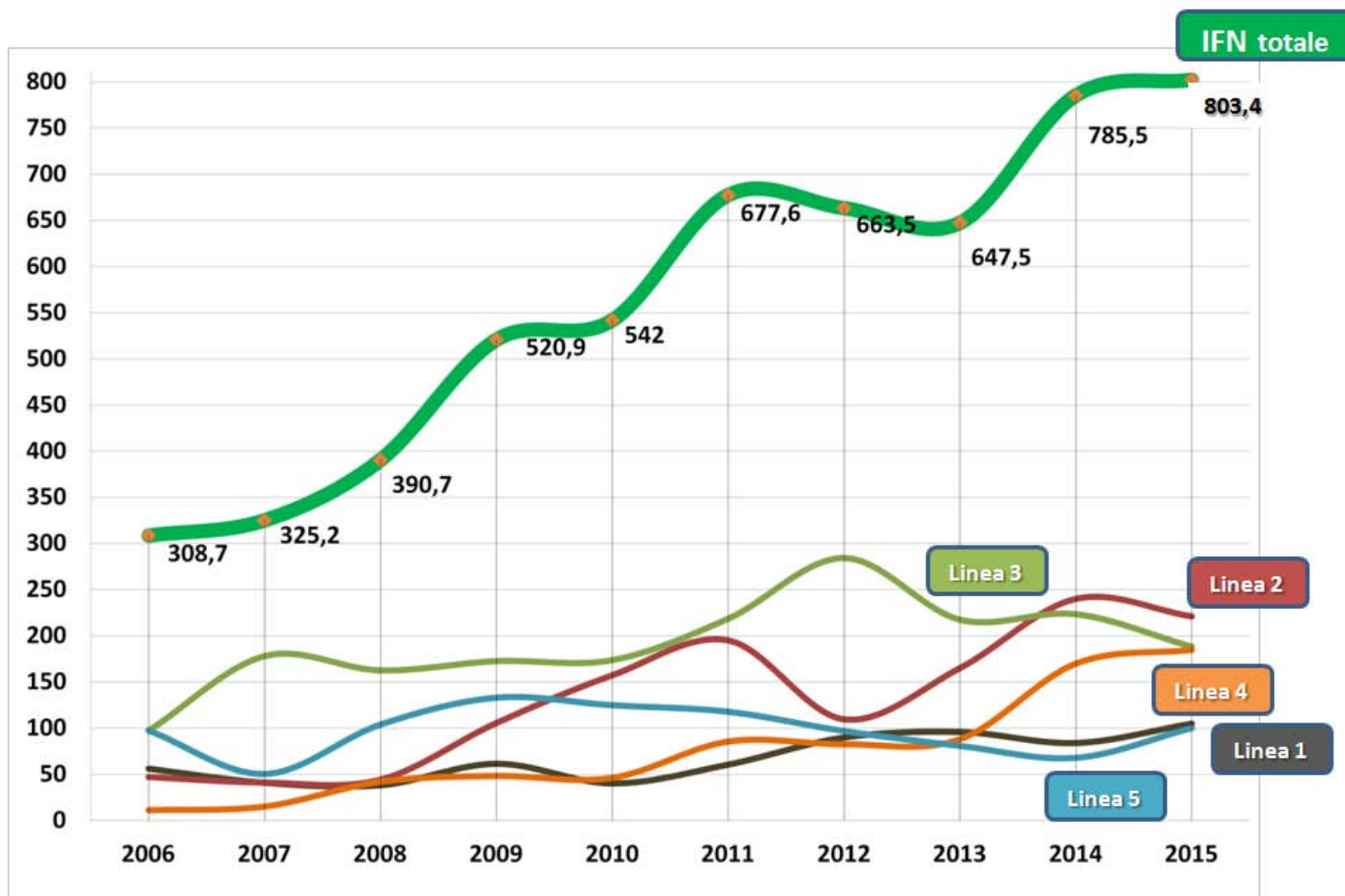
Speakers at scientific conferences

49

Publications

222

SCIENTIFIC PRODUCTION: Trend IF



Research program 1: BIOMEDICAL TECHNOLOGY FOR DIAGNOSING AND RECOVERING FUNCTION

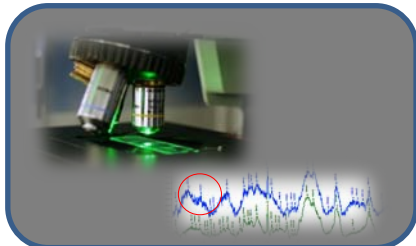
[Scientific Director: Prof. P. Mocarelli]



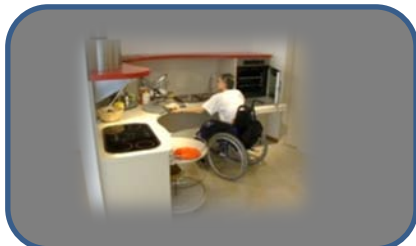
➤ **Bioengineering of Cardiorespiratory System,
Telemedicine and Wearable Systems**



➤ **Bioengineering Applied to the Nervous System and
Muscle-Skeletal**

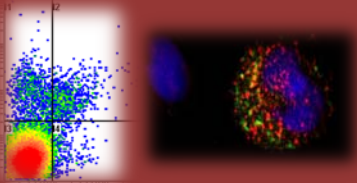


➤ **Advanced Techniques for the Analysis and Processing of
Biosignals, Nanomedicine and Biophotonics Clinic(LABION)**

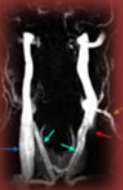


➤ **Assistive Technologies, Domotics and Ambient Assisted
Living, SIVA**

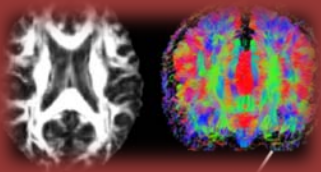
Research Program 2: MOLECULAR MEDICINE AND IMAGING IN REHABILITATION [Coordinator: Prof. M. Clerici]



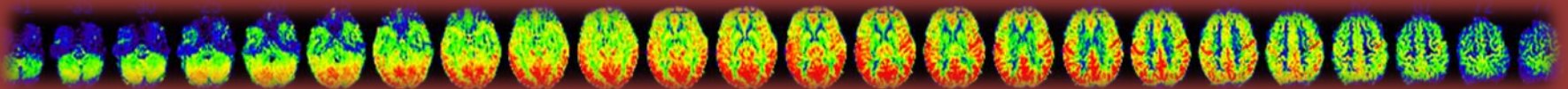
➤ Identification of molecular **markers** (genetic, immunological and microbiological) for the rehabilitation prognosis



➤ Improve diagnostic specificity and staging of chronic diseases (Neurodegenerative p., COPD ...)



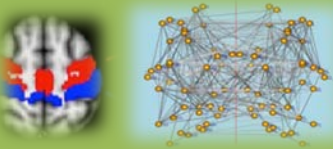
➤ Identify **neural** pattern compensating for **rehabilitation**



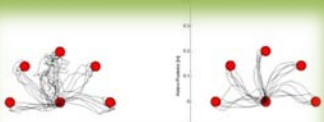
Research Program 3: DISEASES OF THE NERVOUS SYSTEM AND REHABILITATION [Coordinator: Prof. R. Nemni]



➤ Evaluation of pharmacological and rehabilitative therapy in neurodegenerative diseases and in post stroke.



➤ Use of advanced neurophysiological techniques (qEEG, potentials, MEG ...) in staging and rehabilitation



➤ Evaluation of drug therapy on motor and cognitive disability in Multiple Sclerosis



➤ Evaluation in children rehabilitation of the virtual reality than traditional treatments (CARELab)

Research Program 4: DISEASES OF THE MUSCOLOSKETAL SYSTEM AND REHABILITATION

[Coordinator: Prof. A. Montesano]



➤ Development of innovative therapeutic protocols using serious games and virtual reality



➤ Implementation of robotics using neuromuscular rehabilitation synergies



➤ Prevention of falls in patients with stroke, Multiple Sclerosis and Parkinson Disease



➤ Effects of treadmill training on the path, brain activity and neuromuscular synergies

Research Program 5: CARDIOVASCULAR AND RESPIRATORY DISEASES AND REHABILITATION

[Coordinator: Prof. C. Macchi]



➤ Cardio-respiratory rehabilitation in elderly subjects and control of risk factors including diet



➤ Rehabilitation with the study of the pathophysiology of activity, phonation and swallowing in COPD, ALS and MS



➤ Post-cardiac surgery rehabilitation and bearers of V.A.D. (Ventricular Assist Devices)

WHAT DO WE ASK TO EPR PARTNERS?

- To adjust to a new concept of work, more **collaborative** and **participative**
- To design **training sessions** on EU developments
- To increase **participation to EU Funding Opportunities**
- To build **partnership** strategies with Partners
- To enhance co-production for quality of services and quality of life

