

PERSONAL INFORMATION

Gabriella CERRI

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Sex Female | Date of birth 18/09/1973 | Nationality Italian

PERSONAL STATEMENT

Director of the Physiology of motor control's laboratory of the UNiversity of Milan, my research effort is devoted to understanding the mechanisms underlying cortical control of high-skill voluntary movements (hand and phono-articulation), distinctive abilities of the human being, through a multidisciplinary experimental approach. In the last decade the laboratory has implemented methods of investigation and analysis aimed at integrating the data obtained in the context of neurosurgery interventions for the removal of tumors of the nervous system guided by the Brain Mapping technique, with data obtained using advanced neuroimaging techniques and with neurophysiology and neuropsychology data obtained with experiments and assessments outside the hospital and / or on a healthy subject.

The techniques used in the laboratory are primarily: TMS and H-reflex, behavioral paradigms, advanced neuroimaging analysis, intraoperative electrophysiology, neuropsychological evaluation and studies on lesions. The laboratory activities take place primarily at Humanitas Research Hospital (in agreement with the University of Milan) and at the LITA in Segrate (MI). Associate professor since 2017 I hold classes of human physiology to medical school student (International Medical School), Nurses, Obstetricians and to residents in Physical medicine & rehabilitation and Sport/exercise Medicine.

From October 2017 I am the head of the International medical school curriculum.

WORK EXPERIENCE

2017 –present	Associate professor in Physiology (SSD BIO/09)
2004 - 2016	Assistant professor, Istituto di Fisiologia Umana II, University of Milan, Medical School
2001–2002	Research Fellow in Prof. R.N. Lemon's laboratory. Sobell Department for Motor Neuroscience and Movement Disorders, Institute of Neurology, UCL, Queen Square, LondonUK.

EDUCATION AND TRAINING

1998	M.D. degree, 110/110 cum laude Università degli Studi di Milano, Italy MD Degree thesis (1998): " <i>Motoneuronal pre-compensation for the low-pass filter characteristics of muscle.</i> "
1998	Italian Medical licence
07-08 /1999	<u>International Summer School</u> . Theoretical course on integrative physiology and sensory-motor control. Practical course on motor learning and stretch reflexes in the lower limb of man. Director Prof. Jens Bo Nielsen. Copenhagen
2001	Laboratory Animal Management & Welfare Course, Oxford University.
2001	HOME OFFICE PERSONAL LICENCE, UK (primates research).
2002	PhD in Human Physiology PhD thesis (2002): " <i>Coupled movements of ipsilateral hand and foot: neural substrates for the isodirectional principle.</i> "

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2

Teaching activities

PRESENT: Human physiology courses for Medical school International curriculum
 Human physiology courses for Nurses curriculum
 Human physiology courses for Obstetricians curriculum
 Human physiology courses for residency program in Physical medicine & rehabilitation
 Human physiology courses for residency program in Sport/exercise medicine

2011-2013 member of the educational board of the PhD program “Physiology”
2013-2017 member of the educational board of the PhD program “Integrated biomeidical research”

2011- present Lecturer of Master Degree: Riabilitazione Infantile e Metodologie della Ricerca (Prof Adriano Ferrari) Modena e Reggio Emilia University.

Academic activities

2013 Organization manager for test IFOM administration at International Medical School

2013-2015 Coordinator of Erasmus Program activities of International Medical School

2015-2017 Coordinator of the *Comitato Ordinatore IMS* for responsible for planning, relocation and implementation of formal, clerkships and integrative educational activities of the International Medical School

2017-present Head of the International medical school curriculum

2015-2018 Delegate of the Rector for relations with the students

2003-present: member of commissions for admission tests to the Degree courses in Medicine and Surgery

2015-present Member of the Board of the Department of Medical Biotechnology and Translational Medicine

2015- present Member of the Board of the Faculty of Medicine and Surgery of Univerity of Milan

Job-related skills

Human research: Recording of EMG, ENG and mechanical parameters in man; Electrical nerve stimulation, Transcranial Magnetic Stimulation; TMS conditioning of the H reflex.
 Analysis of neurophysiological data recorded during surgical precedures.

Animal research: Monkeys: Recording of EMG, Intracortical Microstimulation (ICMS), training. Rat: epidural recording/stimulating electrodes at cortical and spinal level; sheep: epidural recording/stimulating electrodes at cortical

Driving licence B

ADDITIONAL INFORMATION

Scientific records and publications

Author of several papers (scopus, WOS).

Most relevant:

1. Baldissera F, Cavallari P, **Cerri G**. Motoneuronal pre-compensation for the low-pass filter characteristics of muscle. A quantitative appraisal in cat muscle units. *J Physiol.* (1998) 511:611-27.
2. **Cerri G**, Borroni P, Baldissera F. Cyclic h-reflex modulation in resting forearm related to contractions of foot movers, not to foot movement. *J Neurophysiol.* (2003) 90(1):81-8.
3. **Cerri G**, Shimazu H, Maier MA, Lemon RN. Facilitation from ventral premotor cortex of primary motor cortex outputs to macaque hand muscles. *J Neurophysiol.* (2003) 90(2):832-42.
4. Shimazu H, Maier MA, **Cerri G**, Kirkwood PA, Lemon RN. Macaque ventral premotor cortex exerts powerful facilitation of motor cortex outputs to upper limb motoneurons. *J Neurosci.* (2004) 24(5):1200-11.
5. Prabhu G, Shimazu H, **Cerri G**, Brochier T, Spinks RL, Maier MA, Lemon RN. Modulation of primary motor cortex outputs from ventral premotor cortex during visually-guided grasp in the macaque monkey. *J Physiol.* (2009) 587:1057-69.
6. M Cabinio, V Blasi, M Montagna, P Borroni, A Iadanza, A Falini, **G. Cerri**. The shape of motor resonance: right- or left-handed? *Neuroimage* (2010) 51(1):313-23.
7. P Borroni, A Gorini, G Riva, S Bouchard, **G Cerri**. Mirroring avatars: dissociation of action and intention in human motor resonance. *J Neurosci* (2011) 34(4):662-9.
8. **G Cerri**, M Montagna, L Madaschi, D Merli, P Borroni, F Baldissera, A Gorio. Erythropoietin effect on sensorimotor recovery after contusive spinal cord injury: an electrophysiological study in rats. *Neuroscience* (2012) 219:290-301.
9. **Cerri G**, Cabinio M, Blasi V, Borroni P, Iadanza A, Fava E, Fonia L, Ferpozzi V, Riva M, Casarotti A, Martinelli Boneschi F, Falini A, Bello L. The mirror neuron system and the strange case of Broca's area. *Hum Brain Mapp.* (2015) 36(3):1010-27.
10. Fonia L, Ferpozzi V, Montagna M, Rossi M, Riva M, Pessina F, Martinelli Boneschi F, Borroni P, Lemon RN, Bello L, **Cerri G**. Functional Characterization of the Left Ventrolateral Premotor Cortex in Humans: A Direct Electrophysiological Approach. *Cereb Cortex.* (2018) 28:167-183.
11. Rossi M, Fonia L, Puglisi G, Leonetti A, Zuccon G, Fava E, Milani D, Casarotti A, Riva M, Pessina F, **Cerri G**, Bello L. Assessment of the praxis circuit in glioma surgery to reduce the incidence of postoperative and long-term apraxia: a new intraoperative test. *J Neurosurg.* (2018) 23:1-11. **IF**
12. Ferpozzi V, Fonia L, Montagna M, Siodambro C, Castellano A, Borroni P, Riva M, Rossi M, Pessina F, Bello L, **Cerri G**. Broca's Area as a Pre-articulatory Phonetic Encoder: Gating the Motor Program. *Front Hum Neurosci* (2018) 12:64.
13. Viganò L, Fonia L, Rossi M, Howells H, Leonetti A, Puglisi G, Conti Nibali M, Bellacicca A, Grimaldi M, Bello L, **Cerri G**. Anatomic-functional characterisation of the human "hand-knob": A direct electrophysiological study. *Cortex.* 2019 113:239-254.