

Federico Giove

MRI Physicist



+39 347 0407034



www.marbilab.eu



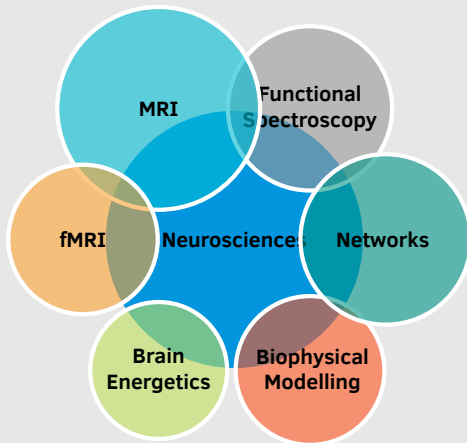
federico.giove@cref.it



0000-0002-6934-3146

Skills

Overview



Programming

0 LOC → 5000 LOC

IDEA (Siemens pulse programming)

Joomla

Matlab • \LaTeX

Languages

0 → *Mothertongue*

Spanish

English

Italian

Positions

- Sep 2015 – present **Senior researcher, tenured** Centro Ricerche Enrico Fermi
As senior researcher (Primo Ricercatore) I head a group of medical physicists focusing on the study of human brain structure and function, and to the development of the relevant MR methods. My research is strongly focused on interdisciplinary approaches to neuroscience and neuroimaging. I come from the MRI School led by prof. Bruno Maraviglia, and I continue this tradition of human-scale MRI.
- Jul 2020 – present **Coordinator of preclinical MRI research** Fondazione Santa Lucia
- Jan 2011 – Aug 2015 **Senior postdoc fellow** Centro Ricerche Enrico Fermi
- Jan 2010 – Dec 2010 **Postdoc fellow** Sapienza University of Rome
- Nov 2004 – Oct 2009 **Postdoc fellow** Centro Ricerche Enrico Fermi
- Nov 2001 – Oct 2004 **PhD student** Sapienza University of Rome

Research

Interests

- Dynamics of brain metabolism physiology and alterations (neurotransmitters cycling, energy-related compounds).
- Biophysical modeling and computational approaches to the study of brain function and metabolism.
- Quantitative MR approaches to brain structure and function.
- Human brain function at rest and under sustained stimulation (resting state and steady state networks).
- Optimization of MR scanners technology for neuroscience.

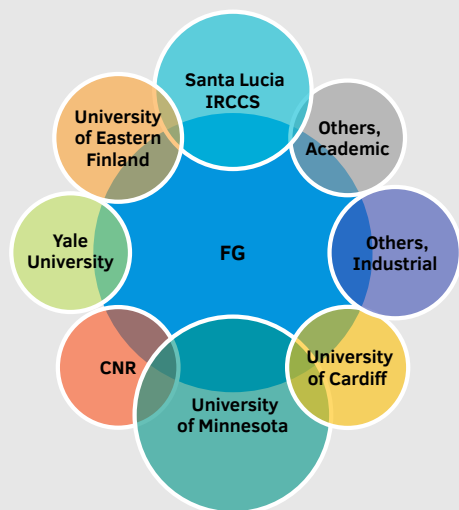
Production

- Coauthor of about 65 full papers and 13 conference papers on international journal with IF, and 40+ other items (editorials, conference proceedings, papers on national journals).
- Some tenths of invited conference talks and chairmanships.
- h-index: 22, 1598 total citations (source: Scopus).

Academic achievements

- **Member** of the group “Health” of the Ministry of Research Commission for the 2021-2027 National Research Plan (PNR).
- **Qualified as full professor** in Applied Physics.
- **Qualified as associate professor** in several disciplines, including Experimental Condensed Matter, Physiology, Biochemistry.
- **Member of the Board** (Collegio dei Docenti) of the PhD School in Morphogenesis and Tissue Engineering, from XXXIII cycle, Sapienza University of Rome.
- **Condirector** of the International School on Magnetic Resonance and Brain Function, Erice, Italy.
- **Associate Editor** of Frontiers in Neuroscience, Frontiers in Physics and Frontiers in Physiology.
- **Guest Editor** of Magnetic Resonance Imaging.
- **Reviewer** for leading international journals (Scientific Reports, Cerebral Cortex, NeuroImage, Journal of Cerebral Blood Flow and Metabolism, NMR in Biomedicine, PLOS One, Journal of Physiology, Journal of Mathematical Biology ...)
- **Grant reviewer** for The Netherlands Organisation for Scientific Research (NL), the Alzheimer’s Society Foundation (UK), the University of Modena and Reggio Emilia (I).

Collaborations



Education

PhD, Biophysics (ISCED 8)
Sapienza University of Rome
2005 | Rome, Italy

MSc, Physics *cum laude* (ISCED 7)
Curriculum: Biophysics
Sapienza University of Rome
2001 | Rome, Italy

Updated: March 22, 2021

Teaching

- 2015 – present **Adjunct Professor** Sapienza University of Rome
“Professore a contratto” at 8 courses of Applied Physics and Radioprotection Physics.
- 2018 **Lecturer** Università Campus Bio-Medico, Rome.
First Level Master on MR techniques in clinic and research.
- 2017 **Lecturer** Università Tor Vergata, Rome.
Second Level Master on Radioprotection — Safety of ionizing and non-ionizing radiations.
- 2015 **Lecturer** Università Campus Bio-Medico, Rome.
Second Level Master on Radioprotection.
- 2008–2014 **Teaching assistant** Sapienza University of Rome.
Teaching at the Medical Physics program with Prof. B. Maraviglia and Prof. G. E. Gigante.

Grants (last 5 years)

- 2020 – 2022 **Coordinator and PI** Regione Lazio POR-FESR 2014–2020
“NBP: Development of a collaborative platform for advanced neuroimaging methods”.
379832 €
- 2020 – 2023 **Investigator** Regione Lazio DTC Fase 1
“VEROSH — Virtual ExploRation Of Science History”.
73840 €
- 2019 – 2021 **Investigator** Regione Lazio POR-FESR 2014–2020
“ISIS@MACH — Composite Materials ISIS Hub”.
642335 €
- 2017 **PI** E.M.S. S.R.L., Bologna
Measures of EM compatibility of stimulation devices with MRI.
4500 €
- 2015 – 2019 **Coordinator and PI** H2020 MSCA-RISE 691110
“MICROBRADAM: Advanced MR methods for characterization of microstructural brain damage”.
540000 €
- 2015 – 2018 **PI** Regione Lazio POR-FESR 2014–2020
“PAMINA: Piattaforma per l’Analisi Multimodale Integrata in Neuroscienze Applicate - Platform for Integrated and Multimodal Analysis in Applied Neuroscience”.
862000 €

Five selected publications

Daniele Mascali et al. Evaluation of denoising strategies for task-based functional connectivity: Equalizing residual motion artifacts between rest and cognitively demanding tasks. *Human Brain Mapping* (2021). DOI: 10.1002/hbm.25332.

Daniele Mascali et al. Disruption of Semantic Network in Mild Alzheimer’s Disease Revealed by Resting-State fMRI. *Neuroscience* 371 (2018), 38–48. DOI: 10.1016/j.neuroscience.2017.11.030.

Silvia Tommasin et al. Scale-invariant rearrangement of resting state networks in the human brain under sustained stimulation. *NeuroImage* 179 (2018), 570–581. DOI: 10.1016/j.neuroimage.2018.06.006.

Petr Bednařík et al. Neurochemical and BOLD responses during neuronal activation measured in the human visual cortex at 7 Tesla. *Journal of Cerebral Blood Flow and Metabolism* 35 (2015), 601–610. DOI: 10.1038/jcbfm.2014.233.

Mauro DiNuzzo et al. Glycogenolysis in astrocytes supports blood-borne glucose channeling not glyco-generated lactate shuttling to neurons: evidence from mathematical modeling. *Journal of Cerebral Blood Flow and Metabolism* 30 (2010), 1895–1904. DOI: 10.1038/jcbfm.2010.151.