

Federico Giove

MRI Physicist



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www.marbilab.eu



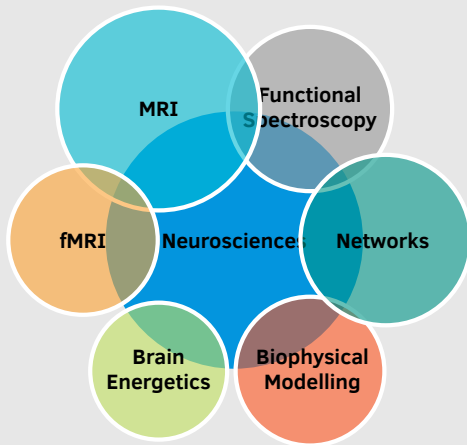
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0000-0002-6934-3146

Skills

Overview



Programming

0 LOC —————> 5000 LOC

IDEA (Siemens pulse programming)

Joomla

Matlab • \LaTeX

Languages

0 —————> *Mothertongue*

Spanish

English

Italian

Positions

Sep 2015 – **Senior researcher, tenured**

Centro Fermi

present

As senior researcher (Primo Ricercatore) I head a group of medical physicists (4 postdocs, undergraduate and PhD students) devoted to 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 his tradition of human-scale MRI.

Jan 2011 – **Senior postdoc fellow**

Centro Fermi

Aug 2015

Jan 2010 – **Postdoc fellow**

Sapienza University of Rome

Dec 2010

Nov 2004 – **Postdoc fellow**

Centro Fermi

Oct 2009

Nov 2001 – **PhD student**

Sapienza University of Rome

Oct 2004

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.

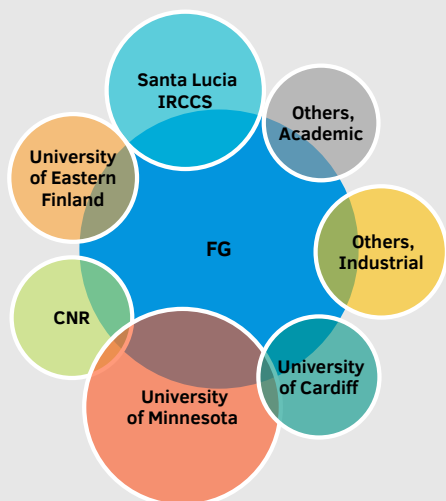
Production

- Coauthor of more than 60 papers on international journal with impact factor, 13 conference papers on international journal and more than 40 other items (other conference papers, papers on national journals).
- Some tenths of conference talks.
- h-index: 20, 1394 total citations, 1275 citations without self-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: January 9, 2020

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 – **Investigator** Regione Lazio DTC Fase 1
2022 “VEROSH — Virtual ExploRation Of Science History”.
73840 € (preliminary)
- 2019 – **Investigator** Regione Lazio POR-FESR 2014–2020
2021 “ISIS@MACH — Composite Materials ISIS Hub”.
642335 €
- 2017 **Principal Investigator** E.M.S. S.R.L., Bologna
Measures of EM compatibility of stimulation devices with MRI.
4500 €
- 2015 – **Coordinator and Principal Investigator** H2020 MSCA-RISE 691110
2019 “MICROBRADAM: Advanced MR methods for characterization of microstructural brain damage”.
180000 €
- 2015 – **Principal Investigator** Regione Lazio POR-FESR 2014–2020
2018 “PAMINA: Piattaforma per l’Analisi Multimodale Integrata in Neuroscienze Applicate - Platform for Integrated and Multimodal Analysis in Applied Neuroscience”.
862000 €

Five selected publications

Petr Bednařík, Ivan Tkáč, Federico Giove, Lynn E Eberly, Dinesh K Deelchand, Felipe R Barreto, and Silvia Mangia. Neurochemical responses to chromatic and achromatic stimuli in the human visual cortex. *Journal of cerebral blood flow and metabolism* 38 (2018), 347–359. DOI: 10.1177/0271678X17695291.

Daniele Mascali, Mauro DiNuzzo, Laura Serra, Silvia Mangia, Bruno Maraviglia, Marco Bozzali, and Federico Giove. 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, Daniele Mascali, Marta Moraschi, Tommaso Gili, Ibrahim Eid Hassan, Michela Fratini, Mauro DiNuzzo, Richard G Wise, Silvia Mangia, Emiliano Macaluso, and Federico Giove. 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, Ivan Tkáč, Federico Giove, Mauro DiNuzzo, Dinesh K. Deelchand, Uzay E. Emir, Lynn E. Eberly, and Silvia Mangia. 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, Silvia Mangia, Bruno Maraviglia, and Federico Giove. Glycogenolysis in astrocytes supports blood-borne glucose channeling not glycogenderived 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.