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<https://scholar.google.com/citations?user=iq8el6wAAAAJ>  
<https://discab.univaq.it/index.php?id=4648>

Curriculum Vitae  
May 2023

- Education: Degree in Biological Sciences (1972) and medical studies University of Rome La Sapienza (Italy).
- Languages: Italian, English, French.
- Adjunct Professor, University of L'Aquila, Department of Applied Medical and Biotechnological Sciences, University of L'Aquila, Italy (2019-2020)
- Full Professor of Human Physiology, Department of Applied Medical and Biotechnological Sciences, University of L'Aquila, Italy (1994-2019, retired October 2019).
- Coordinator of the PhD course in Neurobiology of Neurodegenerative Disorders, University of L'Aquila (2007-2016).
- Coordinator of the PhD course in Endocrinology, Universities of L'Aquila, Chieti and Rome La Sapienza (1997-1999).
- Head of the Department of Sciences and Biomedical Technologies and Member of the Department Directors Board, University of L'Aquila (2004-2011).
- Member of the MIUR National Board for the PhD courses in Physiology (1989-1980).
- Member of the Academic Senate, University of L'Aquila (2007-2009).
- Member of the Academic Board in the PhD course in Experimental Medicine , University of L'Aquila (since 2013).
- Associate Professor of Human Physiology, School of Medicine University of L'Aquila - Italy (1984-1994).
- Assistant Professor of Human Physiology School of Medicine, University of L'Aquila, Italy (1973-1984).
- Adjunct Professor by the Ministry of Foreign Affairs at the National University of Somalia (Mogadishu), winter quarters 1979 and 1980.
- Fellowship of Schweizerischer Nationalfonds zur Förderung (Switzerland) (Contract nr. 893.295.85 03.06.1985) Institut de Physiologie de l'Université de Fribourg (Switzerland), Prof. Wolfram Schultz (1985-1986).
- Visiting Professor 1989 Schweizerischer Nationalfonds zur Förderung (Switzerland) Institut de Physiologie de l'Université de Fribourg (Switzerland), Prof. Wolfram Schultz, contract FNS 893.295.85.

- Chercheur Contractuel INSERM-France. Laboratoire de Physiologie de la Faculté de Médecine Pitié-Salpêtrière, Paris, Prof.J.Féger, 1982-1984(Contracts: 81/887/BPC/FDD/NA 5.10.1981, 82/278/BPC/DK/GM 19.4.1982 e 83/504/BPC/HR/NA 26/5/1983).
- Fellowship CNR-CNRS, INSERM and ESF (contract 132.03.02 21.01.1981) e European Science Foundation (contract 06.11.1981. Laboratoire de Physiologie des Centres Nerveux, Université Paris VI, Prof.J.Féger, Prof. D.Albe-Fessard,1980-1981.
- Main field of interest: Functional and Behavioral Neurophysiology of the Basal Ganglia.
- Memberships in Scientific Societies: International Basal Ganglia Society, Italian Neuroscience Society, Federation of European Neuroscience Associations.
- Papers published in peer-reviewed international journals: 108 (Scopus) , international books chapters: 9; International congresses oral and poster presentations:45, invited participations to international symposia:14.
- His papers have collected more than 8500 citations in Google Scholar (H-index:40) and more than 4300 in Scopus (H-Index 30); May 2023.
- He currently serves as Peer Reviewer for main Neuroscience journals including: The Journal of Neurophysiology, Neuroscience, European Journal of Neuroscience, Behavioural Brain Research, Brain Research, Journal of Neural Transmission, Neuroimage, Experimental Brain Research, Clinical Neurology and Neurosurgery, etc.
- Awarded in 1977 with the Merck Sharp Dohme - LIMPE International Prize.
- Referee for the National Board for Science and Technology (Ireland) for evaluating research proposals (1984-1985).
- He has served as Guest Editor in The Journal of Neural Transmission, Springer-Verlag (Berlin) (2001 and 2016) and in Journal of Chemical Neuroanatomy (Elsevier-Amsterdam) (1999).
- Member of the Italian University Ministry REPRISE board for scientific evaluation of research proposals.
- Appointed as a member of the Integrative and Cognitive Neuroscience Panel of the French Research Funding Agency (Agence Nationale de la Recherche, [www.anr.fr](http://www.anr.fr)), 2021.
- He has received grants from Italian CNR and Ministry of University from 1984 to 1998, MIUR COFIN 2008, MIUR Integrated Action between Italy and Spain 1996, EU Biomed 2 (in collaboration with 4 European laboratories), EU Human Capital and Mobility CM (in collaboration with 7 European Institutions), Telethon Foundation, Ministry of Health-Regione Lazio, private donations.
- Certified to be appointed in the 2019 Board for Abilitazione Scientifica Nazionale and University Professor positions in Physiology (SC 05-D1, SSD BIO-09)

## **Main scientific collaborations**

- Prof.J.Féger, Laboratoire de Physiologie des Centres Nerveux, Université Paris VI, France.
- Prof.Wolfram Schultz, Institut de Physiologie de l'Université de Fribourg, Switzerland.
- Prof. Edgar Garcia-Rill Center for Translation Neuroscience, Department of Neurobiology and Development Neuroscience, University of Arkansas for Medical Sciences, USA.
- Prof. Paolo Mazzone, Center for Stereotactic and Functional Neurosurgery, CTO Hospital Rome-Italy.

### **Main scientific results:**

- First electrophysiological identification of the monosynaptic pathway projecting from the pedunculo pontine tegmental nucleus to the dopaminergic neurons of the substantia nigra and nature of neurotransmitters involved
- First electrophysiological characterization of cortical projections to the subthalamic nucleus and nature of neurotransmitters involved
- Characterization of functional relationships involving the striatum, the subthalamic nucleus and the inner and external segments of the globus pallidus
- Identification of neuronal encoding of reward and motor-related mechanisms in the basal ganglia
- Identification of specific subregions of the striatum and the pedunculo pontine nucleus involved in the preparation and execution of goal-directed movements
- First demonstration of the effectiveness of deep brain stimulation of the pedunculo pontine nucleus in animal models of degeneration of the dopaminergic nigrostriatal pathway.
- Development and introduction in functional neurosurgery of the deep brain stimulation of the pedunculo pontine tegmental nucleus in movement disorders by Prof. Paolo Mazzone at Alesini Hospital in Rome, and functional evaluations of implanted patients concerning motor performance, postural control and waking.

### **Teaching activity**

- Physiology of the Stomatognathic System and Human Physiology. Single cycle degree in Dentistry, University of L'Aquila (since 1984).
- Human Physiology. Single cycle degree in Medicine and Surgery, University of L'Aquila (since 1991).
- Human Physiology. Bachelor of Science Program in Sport and Physical Activity Science, University of L'Aquila (2000-2002).

- Physiology. Bachelor of Science Program in Physiotherapy, University of L'Aquila (2017-2019).
- Neurophysiology. Bachelor of Science Program in Physiotherapy, University of L'Aquila (1994-1996).
- Applied Physiology. Single cycle degree in Medicine and Surgery, University of L'Aquila (1990).
- Neurophysiology. School of Specialization in Neurology, University of L'Aquila (since 1980).
- Neurophysiology of Movement. Interuniversity School of Specialization for secondary teaching (SSIS). Universities of Chieti and L'Aquila (2000-2002).
- Physiology. Bachelor of Science Program in Dental Hygiene, University of L'Aquila (1989-2019).
- Kinesiology. Bachelor of Science Program in Physiotherapy, University of L'Aquila. (1990-1992).
- Cardiovascular Physiology. School of Specialization in Cardiology, University of L'Aquila (1976-1985).
- Human Physiology. School of Medicine, National University of Somalia, Mogadiscio, winter quarters 1979 and 1980.
- Physiology. Bachelor of Science Program in Biomedical Laboratory. University of L'Aquila (1977-1979).
- Physiology, School of Specialization in Radiology and Imaging. University of L'Aquila (1999-2000).

## **Doctoral Thesis**

- The pedunclopontine tegmental nucleus: neurophysiology and role in the regulation of the activity of dopaminergic neurons in the substantia nigra. PhD student: Tiziana Florio. PhD Course in Experimental Medicine. University of L'Aquila.1994 (Tutor).
- Functions of the dorsal striatum and the corticostriatal pathway: possible functional recovery by intrastriatal graft of mesencephalic neurons in an experimental animal model of Parkinson's Disease. PhD student: Annamaria Capozzo. PhD Course in Experimental Medicine. University of L'Aquila.1996 (Tutor).
- Implication des ganglions de la base dans le controle de l'attention: utilisation de l'information prealable au mouvement dans la maladie de Parkinson. These de Doctorat en Neurosciences par Lamine Guèye. Université d'Aix-Marseille II .1997 (Rapporteur).
- The role of deep brain stimulation of the pedunclopontine tegmental nucleus in the control of movement and in the sensorimotor integration in the 6-hydroxydopamine murine model of parkinsonism. PhD student: Flora Vitale. PhD

course in Neurobiology of Neurodegenerative Disorders. University of L'Aquila. 2015 (Tutor).

-Functions of the subthalamic nucleus in the timing of movement. PhD student: Claudia Mattei. PhD course in Neurobiology of Neurodegenerative Disorders. University of L'Aquila. 2015 (Tutor).

### **Didactic Book**

-D.Manzoni, E.Scarnati: Fisiologia Orale e dell'Apparato Stomatognatico. Edi-Ermes Milano, 2011.

-Fisiologia Medica (edited by F. Conti) first (2005), second (2010) and third edition (2020), Edi.Ermes, Milano.

-Fisiologia dell'Uomo (edited by P.E.Di Prampero and A.Veicsteinas), 2002, Edi.Ermes Milano

### **Curatorship of didactic book**

-Italian edition of Samson Wright's Applied Physiology by C.A.Keele,E.Neil e N.Joels (on the 3rd American edition), 1986, SEU, Roma.

-Italian edition of The Principles of Physiology by J.Jensen (on the 2nd American edition), 1988, Piccin, Padova.

-Italian edition of Physiology by L.Costanzo (on the 1st American edition), 2001, Edises, Napoli.

-Italian edition of Textbook of Medical Physiology by A.C.Guyton and J.E.Hall (on the 10th American edition) 2002, Edises, Napoli.

-Italian edition of Pocket Companion to Textbook of Medical Physiology by A.C.Guyton and J.E.Hall (on the 2nd American edition), 2002, Edises, Napoli.

-Italian edition of Physiologie by R. Klinke et al. (on the 6th German edition), 2012, Edises Napoli.