

**Dr. Guido Ferretti**

## **CURRICULUM VITAE**

### **PERSONAL DATA**

NAME : FERRETTI

FIRST NAME : Guido

NATIONALITY : Italian

PLACE AND DATE OF BIRTH : Torino, Italy, March 18th 1956

CIVIL STATUS : Married

Wife : Silvia Spinazzé, born in Milano, 18-12-1959

Children : Lavinia Ferretti, born in Aosta, 21-5-1994  
Livio Ferretti, born in Aosta, 5-12-1995  
Lapo Ferretti, born in Aosta, 27-2-1999

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### **CONTACTS**

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### **CURRENT POSITION**

Full Professor of Human Physiology, Department of Biomedical Sciences and Biotechnologies, School of Medicine, University of Brescia, Italy (part time)

And

Maître d'Enseignement et de Recherche, Département des Neurosciences Fondamentales, Centre Médical Universitaire, Université de Genève, Switzerland (part time)

## EDUCATION

- July 1974 : Maturità Classica, Liceo C. Beccaria, Milano, Italia.
- July 1981 : Medicine Doctor, Università di Milano, Italy.
- July 1984 : Post-doctoral degree in Sports Medicine (cum laude), Università di Milano, Italy.
- January 1998 : Habilitation in Human Physiology, School of Medicine, University of Geneva, Switzerland.

## PROFESSIONAL EXPERIENCE

- January 1979 - October 1981 : MD Student, Department of Physiology, School of Medicine, Università di Milano, Italy.
- November 1981 - October 1983 : Collaboratore Professionale, Department of Biomedical Technologies, School of Medicine, Università di Milano, Italy.
- November 1983 - May 1985 : Assistant, Institute of Human Physiology, School of Medicine, Università di Brescia, Italy.
- June 1985 - September 1988 : Assistant, Department of Physiology, School of Medicine, University of Geneva, Switzerland.
- October 1988 - January 1992 : Maître Assistant, Department of Physiology, School of Medicine, University of Geneva, Switzerland
- February 1992 - to date : Maître d'Enseignement et de Recherche, Department of Physiology, School of Medicine, University of Geneva, Switzerland (part time since 2002)
- November 2001 – to date : Full Professor of Human Physiology, Department of Biomedical Sciences and Biotechnologies, School of Medicine, University of Brescia, Italy (part time)

## SOJOURNS IN OTHER INSTITUTIONS

- October 1979 - December 1979 : "Student Visitor", Department of Physiology, State University of New York, Buffalo, USA.

September 1980 - December 1980 :	"Research Assistant", Department of Physiology, State University of New York, Buffalo, USA.
June 1990 :	"Research Visitor", Center for Research in Special Environments, State University of New York, Buffalo, USA.
March 1999 – February 2002	Honorary Professor (equivalent to Full Professor, without salary), Department of Exercise and Sport Science, Manchester Metropolitan University, Alsager UK.

## LANGUAGES

Italian (mother tongue), English, French, Spanish (basic notions).

## MEMBERSHIP

1. The Physiological Society.
2. Società Italiana di Fisiologia.
3. Société Suisse de Physiologie
4. European College of Sport Science.
5. American College of Sport Medicine
6. Società Italiana di Scienze Motorie e dello Sport

## RESEARCH

### Research fields

1. Regulation of cardiovascular and respiratory functions in resting and exercising humans.
2. Human adaptive responses to extreme environments (microgravity, diving, cold)
3. Energetics of muscular exercise in humans.
4. Energetics and biomechanics of human locomotion.

### Research grants

- 1988 - 1990 "Ventilation and gas exchange during exercise transients in normal subjects and heart transplant recipient patients"  
FNSRS, **FS 96,200**, together with Prof. P. Cerretelli.
- 1988 - 1990 "Effects of Solcoseryl® on extreme endurance exercise in humans"  
Solco Basel SA, **SF 105,950**.
- 1990 - 1994 "Control of ventilation in heart and lung transplant recipients"  
FNSRS, **SF 330,414**, together with Prof. P. Cerretelli.
- 1993 - 1996 "Factors limiting oxygen transport in humans"

- EFSM, **SF 60,000.**
- 1994 - 1995 “Regulation of cardiovascular response to exercise in humans”  
ESA-PRODEX, for technical developments, **FS 540,000.**
- 1994 - 1997 “Gas exchange and cardiac regulation in heart transplant recipient children”  
FNSRS, **SF 293,132**, together with Prof. P. Cerretelli.
- 1995 - 1998 “The effects of nicethamide on the ventilatory response to exercise in hypoxia”  
Zyma AG, **SF 145,930**, together with Prof. P. Cerretelli.
- 1997 - 2000 “Cardiovascular oxygen transport in exercising humans”  
FNSRS, **SF 184,500.**
- 1998 - 2001 “Evaluation of the energy cost of treadmill tests under varying speed and incline condition in patients with chronic obstructive arteriopathy and claudicatio intermittens”  
Sigma-Tau, **SF 58,128.**
- 2000 – 2003 “Dynamics of oxygen transport in humans : posture, exercise and hypoxia”  
FNSRS, **SF 133.000.**
- 2001 – 2003 “Energetic constraints of mounting running”  
OFSP, **SF 78.540.**
- 2001 – 2003 “Cardiopulmonary consequences of prolonged bed rest in humans”  
FNSRS, **SF 74.390**
- 2003 – 2006 “ Effects of gravity acceleration on oxygen uptake, cardiac output and autonomic control of heart function during exercise in humans“  
FNSRS, **SF 176.118**
- 2008 - 2010 “Neurovegetative system and exercise in lung transplant recipients”.  
PRIN 2007, € **31.500**
- 2009 – 2010 “Safety in SCUBA diving : decompression, bubble formation and evaluation of physiological parameters”  
CCM, € **200.000**
- 2009 – 2012 “Dynamics of pulmonary gas exchange and systemic oxygen delivery during exercise in patients affected by specific cardiopulmonary diseases”  
FNSRS, **SF 375.000**

### **International research contracts**

- 1994 - 1996 European Space Agency, jointly with Centre National d’Etudes Spatiales, France, for participation in the 1994 LT-HDT Bed Rest campaign, with experiment ESA/LT/023, entitled “Effects of long term bed rest on the biomechanical and the bioenergetic characteristics of human skeletal muscle and on the factors limiting maximal oxygen consumption”.

- 1994 - 1996 European Space Agency, for participation in the Euromir 95 programme, with experiment 21-CH, entitled "Regulation of cardiovascular response to exercise in humans".
- 1998 - 2002 European Space Agency, for participation in the programme ESA-AO-97-LS-ARMS, as co-investigator of experiment 7-S (P. I. Prof. Dag Linnarsson, Karolinska Institute, Stockholm, Sweden), entitled "Cardiopulmonary and muscular adaptations during and after microgravity".
- 2000 - 2003 European Space Agency, jointly with Centre national d'études spatiales, France, for participation in the programme ESA-AO-99-LS-BR, with the project 001, entitled "Respiratory, circulatory, muscular and bone consequences of inactivity and rehabilitation in humans".
- 2000 - 2003 European Space Agency, for participation in the programme ESA-AO-2000-LS-BR-SHORT, as co-investigator of project 002 (Principal Investigator : Prof. Carlo Capelli, Università di Udine), entitled "Cardiopulmonary consequences of short term bed rest".
- 2003 - 2006 European Space Agency, jointly with Karolinska Institute, Stockholm, Sweden, for participation in the programme ESA-RA-LS-01-LSRA, with the project 067, entitled "Effects of gravity acceleration on oxygen uptake during exercise in human".

### **Other research programmes**

- 2002 - Apnea Academy, for the study of cardiopulmonary responses to breath-hold diving in top level divers. Since 2005, this activity is part of an agreement between Apnea Academy and the University of Brescia, School of Exercise Science.
- 2008 - Agenzia Spaziale Italiana e Università del Litorale, Kopar, Slovenia, for participation in a programme of prolonged bed rest, jointly organised by the two Institutions here above.

### **Scientific functions**

Referee, Fonds national suisse de la recherche scientifique

Referee, Commission de recherche, Office fédéral du sport de Macolin.

Referee, Projets thématiques, Région Rhône-Alpes, France

Referee, Programmi di Ricerca di Interesse Nazionale, Ministero dell'Università e della Ricerca Scientifica, Italia

Referee, Netherlands Institute for Space Research

Member of reviewing committee, European Space Agency, ESA-AO-2004

Section Editor for the European Journal of Applied Physiology (since 2009)

## Organisation of meetings and symposia

European College of Sport Science, the Manchester Meeting, July 15-18, 1998. Symposium :  
PHYSIOLOGY IN SPACE : HOW PHYSIOLOGICAL SYSTEMS DEGRADE.

Satellite Course, European College of Sport Science, the Rome meeting, July 13-14, 1999  
INTEGRATIVE MUSCLE PHYSIOLOGY  
Jointly organised by Roberto Bottinelli, Marco Ferrari , **Guido Ferretti** and Marco Narici

VII IOC World Congress on Sports Science, Athens, October 7-11, 2003 Symposium  
COUNTERMEASURES FOR MAN IN SPACE

International Congress “Mountain and Sport”, on the occasion of 10<sup>th</sup> anniversary of *Centro di Bioingegneria e Scienze Motorie*, Rovereto, Italy,  
Jointly organised by Carlo Capelli, **Guido Ferretti**, Guido Fumagalli and Federico Skena

## ADMINISTRATION

1999 – 2000	Member of <i>Groupe de Travail Médecine et Sport</i> , Faculté de Médecine, Université de Genève (chairman Prof. Jean-Philippe Bonjour)
1999 – to date	Member of <i>Comité de Programme pour les années 1 – 3</i> , Faculté de Médecine, Université de Genève
2001 – to date	Member of <i>Consiglio di Corso di Laurea in Medicina e Chirurgia</i> , Università di Brescia
2001 – to date	Member of Scientific Council of <i>Centro di Bioingegneria e Scienze Motorie</i> , Rovereto, Italy
2002 – to date	Member of <i>Consiglio di Corso di Laurea in Medicina e Chirurgia</i> , Università di Brescia
2001 – to date	Member of Scientific Committee of CEBISM, Rovereto (dal 2001), on behalf of the University of Brescia
2008 – to date	Ethical Committee, Società Italiana di Scienze Motorie e dello Sport (dal 2008)
2009 – to date	Member of <i>Commissione Interministeriale Sanità e Sport</i> , Ministero della Salute, Roma, Italia, charge to develop a project aimed at introducing exercise as a preventive and therapeutic tool in the Italian Health System

## Papers (the last ten)

1. Lador F, E Tam, M Azabji Kenfack, M Cautero, C Moia, D Morel, C Capelli and **G Ferretti**. Phase I dynamics of cardiac output, systemic O<sub>2</sub> delivery and lung O<sub>2</sub> uptake at exercise

- onset in men in acute normobaric hypoxia. *Am J Physiol, Reg Int Comp Physiol*, 2008, 295: R624-R632. (3.36)
2. Capelli C, G Antonutto, M Cautero, E Tam and **G Ferretti**. Metabolic and cardiovascular responses during sub-maximal exercise in humans after 14 days of head-down tilt bed rest and inactivity. *Eur J Appl Physiol*, 2008, 104: 909-918. (2.36)
  3. **Ferretti G**, F Iellamo, P Pizzinelli, M Azabji Kenfack, F Lador, D Lucini, A Porta, K Narkiewicz and M Pagani. Prolonged head down bed rest-induced inactivity impairs tonic autonomic regulation while sparing oscillatory cardiovascular rhythms in healthy humans. *J Hypertension*, 2009, 27: 551-561. (4.49)
  4. **Ferretti G** and C Capelli. Maximal O<sub>2</sub> consumption : effects of gravity withdrawal and resumption. *Respir Physiol Neurobiol*, 2009, 169S:S50-S54. (2.28)
  5. Esposito F, E Limonta, G Alberti, A Veicsteinas and **G Ferretti**. Effect of respiratory muscle training on maximum aerobic power in normoxia and hypoxia. *Respir Physiol Neurobiol*, 2010, 170: 268-272. (2.28)
  6. Bonjour J, C Capelli, G Antonutto, S Calza, E Tam, D Linnarsson and **G Ferretti**. Determinants of oxygen consumption during exercise on cycle ergometer: the effects of gravity acceleration. *Respir Physiol Neurobiol*, 2010, 171: 128-134. (2.28)
  7. Bringard A, S Pogliaghi, A Adami, G De Roia, F Lador, D Lucini, P Pizzinelli, C Capelli and **G Ferretti**. Cardiovascular determinants of maximal oxygen consumption in upright and supine posture at the end of prolonged bed rest in humans. *Respir Physiol Neurobiol*, 2010, 172: 53-62. (2.28)
  8. Perini R, A Gheza, C Moia, N Sponsiello and **G Ferretti**. Cardiovascular time courses during immersed prolonged static apnoea. *Eur J Appl Physiol*, 2010, 110: 277-283. (2.36)
  9. **Ferretti G**, A Bringard and R Perini. An analysis of performance in human locomotion. *Eur J Appl Physiol*, 2011, 111: 391-401. (2.36)
  10. Bonjour J, A Bringard, G Antonutto, C Capelli, D Linnarsson, DR Pendergast and **G Ferretti**. Effects of gravity acceleration on human cardiovascular responses to exercise *Eur J Appl Physiol.*, 2011, e-pub ahead of print. (2.36)