

## **Silvestro Roatta – Curriculum Vitae**

### **September 2023**

- Born in Mondovì (CN, Italy) on March 19, 1968.
- 1993 Master degree in Electrical Engineering, Poltecnico di Torino, Italy.
- 1997 PhD in Physiology, University of Torino Medical School
- Currently, Associate Professor in Physiology, and head of the Integrative Physiology Lab, Dept. Neuroscience, University of Torino

#### **Research appointments:**

- Fellowship at Neuromuscular Research Center, Boston University (MA, USA) on acquisition and processing of surface myoelectric signals (1993);
- Research contracts at the “Casimiro Mondino” Neurological Institute in Pavia (Italy) on neurovegetative control of cerebral hemodynamics in healthy subjects, patients and animal models (1996-2002);
- Visiting Researcher at the National Institute of Working Life in Umea, Sweden (1999-2003) and at the Center for Sensorimotor Integration at Aalborg University, Denmark (2006-2011).

#### **Research activity**

The activity is currently conducted along different lines.

- The control of muscle blood flow and oxygenation, including the adrenergic control in different body areas and the assessment of vascular reactivity to different stimuli and
- The non-invasive assessment of the volume status, including ultrasound monitoring of the inferior vena cava with innovative methodologies and the development and testing of a new approach based on the measurement of the venous pulse wave velocity, in collaboration with the Città della Salute Hospital Torino) and the dept of Electronics and Telecommunications (Politecnico di Torino)
- Control of body posture, focusing on the development of a methodology for the objective assessment of the individual capacity to counteract unexpected perturbations delivered to the trunk, in collaboration with the dept of Mechanical and Aerospace Engineering (Politecnico di Torino)
- Novel pathways for the implementation of Brain-computer Interfaces. In particular, new devices have been devised, based on the voluntary control of pupil size, and are currently being tested in healthy subjects and in ALS patients.

#### **Present and past collaborations**

- Mathematical Biology and Physiology, Dept. Electronics and Telecommunications, Politecnico di Torino (Prof. L Mesin)
- Laboratorio di Meccanica Funzionale. Dept. of Mechanical and Aerospace Engineering (Prof C. Ferraresi)
- Experimental Psychology Lab, Division of Neuroscience, San Raffaele Hospital (MI)
- Reparto di Medicina Interna 1, AOU Città della Salute e della Scienza, Torino
- Center for Musculoskeletal Research – University of Gavle, Umea, Svezia.
- Laboratorio di Ingegneria del Sistema Neuromuscolare e della Riabilitazione Motoria del Politecnico di Torino
- Center for Sensory-Motor Interaction, Aalborg University, Aalborg, Danimarca
- Department of Neurorehabilitation Engineering Bernstein Center for Computational Neuroscience (BCCN) University Medical Center, Georg-August University, Göttingen, Germany
- Dip. Neurologia d'Urgenza, Istituto Neurologico “C. Mondino”, Pavia.

#### **Grants**

University of Torino,  
Regione Piemonte,

Italian Ministry of University and Research and Italian Ministry of Health,

FP7 Marie Curie Action,  
POR-FESR Liguria Region.  
Compagnia di SanPaolo Foundation  
Fondazione Cassa di Risparmio di Torino  
Proof of Concept TOIMPROVE 2020 and 2023 University of Torino  
PRIN 2022

### **Editorial board**

Applied sciences- Applied biosciences and bioengineering;  
Frontiers in Physiology (Vascular Physiology)

### **Reviewer activity for:**

Journal of Physiology, American Journal of Physiology, Journal of Applied Physiology, Frontiers in Physiology, Frontiers in Neurology, Experimental Brain Research, Clinical Neurophysiology, Muscle and Nerve, Journal of Neurophysiology, Veterinary Journal, Physiological Sciences, Physiology and Behaviour, Medical and Biological Engineering and Computing, American Journal of Hypertension, Medicine and Science in Sport and Exercise, Sensors, Pain Medicine, Physiological Measurements, Journal Electromyography and Kinesiology, Scientific Reports, Archives of Oral Biology, Acta Neurobiologiae Experimentalis, Sport Sciences for Health, Neuroscience Letters, Journal of Physiology and Pharmacology, J Orthoped Res, Science Advances.

### **Teaching**

- Physiology, Nurses degree, Medical School, University of Torino (2001-2012).
- Physiology , Dental Hygienist degree, Medical School, University of Torino (2004-2010)
- Physiology , Dentistry degree, Medical School, University of Torino (since 2010)
- Fundamentals of Biology, Anatomy and Physiology, degree in Biomedical Engineering, Polytechnic of Torino (since 2001)
- Cardio-pulmonary interaction, Specialization in Anesthesiology, Medical School, University of Torino. (since 2001)
- Muscle Physiology, Specialization in Physical and Rehabilitative Medicine, Medical School University of Torino (since 2015)
- Physiology, Specializations in Orthodontics and Endodontics, Medical School, University of Torino (since 2016)
- Lectures at the Master in Ultrasound for Nurses and Midwives, University of Torino (since 2015).
- Lectures at the Master in Peripheral and Neurovascular Ultrasound, University of Torino (since 2020)

### **Institutional activity**

- Member of the commission for admission of foreign students, Faculty of Dentistry, UniTO
- Member of Planning & Development commission, Faculty of Medicine, UniTO (2010-2012)
- Member of the Council, Dept. of Neurosciences (2012-2015).
- Member of Planning & Development commission, Academic Senate, UniTO (2012-2015)
- Invited member of the Council of Biomedical Engineering (Politecnico di Torino)
- Member of the General Council of Cassa di Risparmio di Cuneo Foundation (since 2016)
- Member of the Council and of the working group for quality assessment of the PhD course in Medicine and Experimental Therapy
- Director of the Master course in Echography for Nurses and Obstetricians.(2016-2019; 2023-)

### **Bibliography**

He published more than 80 articles on peer-reviewed journals; H-index=16; total citations: 1147; Patents: 7;