

# Curriculum Vitae Sergio Silvestri

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## Academic Degrees

- 1989-1995 “Laurea” degree (five years) in Mechanical Engineering, with specialization in Biomedical Engineering, University of Rome “La Sapienza”, thesis extract published on Journal of Clinical Engineering (J Clin Eng v.22, n.3, pp.163-170, May/June 1997)
- 1997-2001 Ph.D. in Mechanical and Thermal Measurements at the University of Cagliari, an extract of the PhD Thesis published on Review of Scientific Instruments (Rev Sci Instr 2002, 73: 6, pp. 2411-2416).

## Academic Positions

- 2000 – 2002 Assistant Researcher, Department of Mechanical Engineering, University of Rome “La Sapienza”
- 2001 – 2002 Lecturer “Mechanical and Thermal Measurements Laboratory” University of Rome “Roma Tre”
- 2003 – 2004 Head professor in “Clinical Instrumentation” - Specialization School of Clinical Engineering - University of L'Aquila – Italy –
- 2002 – 2006 Researcher in Mechanical and Thermal Measurements, Departmental Faculty of Engineering, University Campus Bio-Medico of Rome
- 2006 – 2017 Associate Professor in Mechanical and Thermal Measurements, Departmental Faculty of Engineering, University Campus Bio-Medico of Rome
- 2017 - today Full Professor in Mechanical and Thermal Measurements, Departmental Faculty of Engineering, University Campus Bio-Medico of Rome

## Research Interests

Scientific activity is mainly focused on measurements and measurement systems for clinical diagnostics, in particular: on non-invasive biomedical instrumentation, contactless measurement of cardiorespiratory parameters, measurement of respiratory parameters during mechanical ventilation, novel sensors for flow measurement of compressible fluids, non-invasive methods for cardiac output estimation. I realized instruments for the respiratory simulation and performance testing of artificial ventilators along with uncertainty evaluation. I carry out researches on performance assessment and quality evaluation of medical instruments.

I have written papers on:

- respiratory simulation devices
- artificial ventilation
- thermo-hygrometric measurement and control
- respiratory physiology, sensors and transducers
- non-invasive estimation of cardiac output
- laser-tissue interaction on pancreas
- temperature measurements obtained by CT and RM scanners
- early detection of drift phenomena

## Other scientific and academic activities

2015-today, Scientific Director of 2<sup>nd</sup> level Master’s Degree in “Radiation protection”

2007-today, professor member of PhD School in “Biomedical Engineering and Bioscience”.

2001-today, Head of the Measurements Educational Laboratory UCBM.

2002-today, Head of the Measurements and Biomedical Instrumentation Research Laboratory UCBM.

## **Awards**

May 2010, a master's thesis was awarded as the best thesis in the '2009 Thesis Award' competition launched by BIC Lazio as part of the "University & Business" project.

September 2013 a master's thesis was awarded as best thesis in the competition 'Siamoc 2013 Degree Award' announced by the Italian Society of Movement Analysis in Clinics, the same thesis was awarded as best thesis in the 2013 GNB Degree Award established by the National Group of Bioengineering.

September 2017 a doctoral thesis was awarded as the best doctoral thesis in the 2017 GNB Degree Award established by the National Bioengineering Group.

May 2019 a doctoral thesis won the "Prof. Domenico Grimaldi Award "as the best doctoral thesis for innovative research results in the field of biomedical measurements.

October 2019 first prize of the International Health Technology Challenge, within the third world congress of Clinical Engineering ICEHTMC for the work entitled "Performance Evaluation of Clinical Engineering Services: identification and measurement of KPI with Pareto diagrams" authors Cecchini, Masselli , Silvestri

March 2021 winner of the "Sensors 2021 Best Paper Awards" for the article "Contact-Based Methods for Measuring Respiratory Rate"

## **Refereeing and Editorial Board**

Reviewer of *IEEE Transactions on Biomedical Engineering*, *Review of Scientific Instruments*, *Measurement Science and Technology*, among others.

Editorial Board member of *The Open Biomedical Engineering Journal*.

## **Research project evaluator**

Research projects evaluator for Qatar National Research Fund, Undergraduate Research Experience Program

Evaluator expert for FAR (Fondo per le Agevolazioni alla Ricerca) Italian Ministry of University and Research.

Evaluator expert for REPRISE - Register of Expert Peer Reviewers for Italian Scientific Evaluation.

Evaluator expert for Industrial Research projects Regione Emilia-Romagna POR FESR 2014-2020

Evaluator expert for Agenas (National Agency for regional health services).

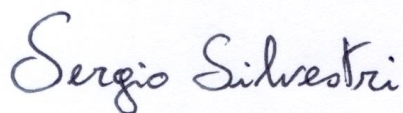
## **Other Professional Activities**

Since 2005 Head of the Clinical Engineering Service of the University Hospital Campus Bio-Medico of Rome, with more than 7,000 biomedical devices, as far as it concerns the acquisition of new equipment, the quality control and maintenance management. In 2005 I realized a laboratory for testing and quality control of medical instrumentation with specific equipment for quality testing.

Technical consultant of Manufacturers of Medical Instrumentation for Intensive Care Unit and Diagnostic Imaging.

Since November 2009 President of the Biomedical Engineering Committee of the Professional Society of Engineers in Rome.

In faith,



Rome, March the 23rd, 2023