

Prof. Luigi Rovati

University of Modena and Reggio Emilia
Dept. of Engineering "Enzo Ferrari"
Via Vignolese 905
41100 - Modena
Italy

Office:

Tel.: +39-059-2056192

Laboratory:

Tel.: +39-059-2056196

Fax: +39-059-2056129

E_mail: rovati.luigi@unimore.it



In 1989, Luigi Rovati received the Doctor degree in Electronic Engineering, *summa cum laude*, from University of Pavia, Italy.

In 1989, he had a fellowship with Fondazione Clinica del Lavoro di Veruno.

In 1994, he received the Ph.D. degree in electrical engineering from the University of Pavia. In 1994, he had a fellowship with the Swiss Federal National Program KLFM 2885.1.

In 1996, he joined the Department of Electronics for the Automation of University of Brescia as Researcher (Assistant Professor).

From 2002, he is Professor at the Department of Engineering "Enzo Ferrari" of the University of Modena and Reggio Emilia

The scientific activity of Luigi Rovati is characterized by several stages all dedicated to the study, development and characterization of innovative measurement instruments. He has analyzed theoretical aspects related to the detection of weak signals and analog processing in order to minimize the measurement uncertainty, and experimental aspects with regard to the implementation of systems for the metrological characterization of devices developed. Implicit to these activities has been a good knowledge gained on the electronic and optoelectronic technologies, with particular attention to biomedical applications. The frameworks of these researches were national research programs INFN, INFM, PRIN, contracts with industrial partners and collaborations with national and international research institutions.

The researches of Prof. Rovati have led to many results of significant quality and originality; for example: (i) for the first time has been demonstrated the possibility to measure *in vivo* the light scattering properties of the tissues in the posterior segment of the eye by means of a measuring instrument designed and realized by the applicant (1993M 1996), (ii) Luigi Rovati has designed and demonstrated the feasibility of an optical sensor for non-invasive measurements of blood glucose level in diabetic patients (2002M 2006), (iii) the applicant has designed and developed an innovative measurement system for measuring the gas Radon concentration (2008M 2012).

In addition to participating in several Conference Program Committees and serve as a chairman of numerous international conferences, the international recognition of his research is also highlighted by the involvement as an evaluator in two important research programs promoted by international organizations: (a) 2000 M 2005: External consultant to the evaluation of funding proposals for research projects submitted to INTAS (Association Agreement between the EU and NIS: NIS former USSR), (b) 2010M present: Evaluator INCO

"Measures to Attract Leading Scientists to Russian Educational Institutions" Call sponsored by the Russian Federation (see attached other titles).

Luigi Rovati has headed from 1999 to 2001 the activities of the Biomedical Optics Group of the Laboratory of Optoelectronics (Department of Electronics for AutomationM University of Brescia). Moving to the Department of Engineering of the University of Modena and Reggio Emilia, in 2002, Luigi Rovati founded and is currently directing the research activities of the Measurements, Instrumentation and Sensors Group (www.misure.unimore.it) demonstrating not only good integration capacities in new contexts but also attitude to the organization, direction and coordination of research groups. Over the years the laboratory founded and directed by Prof. Rovati had numerous collaborations with leading international research groups including NASA Glenn Research Center at Lewis Field, Cleveland, Ohio (USA), SanfordM Burnham Medical Research Institute, San Diego (USA), University of MiamiM Bascom Palmer Eye Institute, Miami (USA), Technische Universiteit Eindhoven, Eindhoven (Netherlands); HESM Institute of Systems Engineering, Sion (Switzerland).

Prof. Luigi Rovati received an important international recognition by the National Aeronautics and Space Administration (NASA) for the researches carried out in collaboration with the Glenn Research Center (NASA) in Cleveland. The work was focused on the study of a measuring system for nonM invasive blood glucose determination for space applications.

Research in Optolab have been consistently supported by the work of many PhD students whose work has been supervised by the PI:

- 1) Luca Pollonini, XV cycle, PhD in Information Engineering, University of Brescia
- 2) Giorgia Salvatori, XIX cycle, International Doctorate School in Information and Communication Technologies, University of Modena and Reggio Emilia
- 3) Matteo Bonaiuti, XX cycle, International Doctorate School in Information and Communication Technologies, University of Modena and Reggio Emilia
- 4) Stefano Cattini, XXI cycle, International Doctorate School in Information and Communication Technologies, University of Modena and Reggio Emilia
- 5) Nithiyantham Palanisamy, XXIV cycle, International Doctorate School in Information and Communication Technologies, University of Modena and Reggio Emilia
- 6) Luca Ferrari, XXV cycle, International Doctorate School in Information and Communication Technologies, University of Modena and Reggio Emilia
- 7) Luca Di Cecilia, XXXI cycle, International Doctorate School in Information and Communication Technologies, University of Modena and Reggio Emilia

Luigi Rovati has demonstrated an ongoing commitment in academic business related to management/organization proving recognized planning skills.

The positions held at the University of Modena and Reggio Emilia (see other titles):

2004-2010: elected from among the Associate Professors in the Board of the Department of Information Engineering;

2005-2010: Deputy Director of the International Doctorate School in Information and Communication Technologies;

2010-2012: Deputy Director of the Department of Information Engineering;

2012-2015: Member of the Academic Senate as a representative of the Associate Professor (macro-disciplinary area CUN 1)

2012-2013: Delegate of the Director of the Department of Engineering "Enzo Ferrari" for the Technology Transfer and Relations with the Territory;

2012M 2018: Deputy Director of the the Department of Engineering "Enzo Ferrari";

2012M 2018: Component appointed the Board of the Department of Engineering "Enzo Ferrari";

The technology transfer and research exploitation of Prof. Luigi Rovati has led to the following results:

- 1) several national and international patents
- 2) the creation of two spin off companies promoted and founded by the PI: Nirox (http://www.ilo.unimore.it/site/home/serviziM_allimpresa/vetrinaM_startM_up.html) and RSENS (http://www.ilo.unimore.it/site/home/serviziM_allimpresa/vetrinaM_spinoff/areaM_tecnologica.html)
- 3) Expert for technology transfer evaluation of ANVUR (Italian Agency for the Research Evaluation)
- 4) 2012M 2013: Delegate of the Director of the Department of Engineering "Enzo Ferrari" for technology transfer and connection with the Territory
- 5) Member of the Board of Centro Interdipartimentale Intermech Mo.Re. (Tecnopolo of Modena, Rete Alta Tecnologia Emilia Romagna)
- 6) Member of the Scientific Committee of the Centro Interdipartimentale BIOGEST M SITEIA (Tecnopolo di Reggio Emilia, Rete Alta Tecnologia Emilia Romagna)
- 7) Member of the Scientific Committee of the Parco Scientifico e Tecnologico di Mirandola (Rete Alta Tecnologia Emilia Romagna)
- 8) Director of the education program TACC (Training for Automotive Company Creation)

1996-present: Reviewer for major measurement journals:

IEEE Transactions on IEEE Instrumentation and Measurement Society

publications of the International Society for Optical Engineering (SPIE)

publications of the Optical Society of America

publications of the Institute of Physics

publications of the American Institute of Physics

2000-2005: External consultant to the evaluation of funding proposals for research projects submitted to INTAS (Association Agreement between the EU and NIS: NIS former USSR)

2000-present: Member of the Program Committee of the International Conference on Ophthalmic Technologies in the International Symposium "Photonics West" organized annually by the International Society for Optical Engineering (<http://spie.org/x7777.xml>)

2004: Organizer and Chairman of the Special Session "Optical Measurement and Instrumentation for Biomedical Applications", IEEE INSTRUMENTATION AND MEASUREMENT TECHNOLOGY CONFERENCE, Como, Italy, 18-20 May 2004

2004: Technical Program Reviewer of the IEEE INSTRUMENTATION AND MEASUREMENT TECHNOLOGY CONFERENCE, Como, 18-20 May 2004

2004: Chairman of the Session "MEMS and Microtechnology" 8th National Conference "Elettroottica", Pavia, 14-16 June 2004

2004: Member of the Scientific Committee of the 12th International Conference on Experimental Mechanics, Bari, 29 August - 2 September 2004

2004-present: Member of the GMEE Board and representative of the GMEE Unit of Modena and Reggio Emilia

2006: Organizer and Chairman of the Special Session "Optical I & M technology for biomedical applications", IEEE INSTRUMENTATION AND MEASUREMENT TECHNOLOGY CONFERENCE, Sorrento, Italy, 24-27 April 2006

2007: Member of the Program Committee of the IX International Conference on Laser Applications in Life Sciences (LALS-2007), and Chair of the Session "Laser Biomedical Diagnostics", Moscow, Russia, 11-14 June 2007

2004-2008: Expert of CIVR (Committee for the Research Evaluation)

2006-present: Expert Technical Committee IEC CT111: Environmental aspects of electrical and electronic products

2008-present: Expert in Technological Innovation for the evaluation of technological innovation projects of the Italian Ministry of Economic Development

2007: Member of the evaluation committee for the innovation and youth entrepreneurship promoted by the area of Reggio Emilia

2010-today: Evaluator INCO "Measures to Attract Leading Scientists to Russian Educational Institutions" Call sponsored by the Russian Federation