Sergio Casciaro has a **15-year experience in multidisciplinary research at international level** and his activities have been mainly related to the development of novel methodologies for biomedical image and signal processing, also through the introduction of new innovative and minimally invasive diagnoses and therapies. The **gained experience** is specifically related to three main research areas: 1) Experimental characterization and modelling of **novel methods for non-ionizing imaging techniques**, like ultrasound (US) and magnetic resonance imaging (MRI); 2) **Automatic extraction of information** from biomedical images and signals; 3) **Industrial research** for the development of new US-based biomedical systems with the related patenting activities, bridging the gap between applied research and industries of the field. In this context, the PI dedicated significant research efforts to the development of new non-invasive techniques for quantitative **monitoring of childbirth labor**, exploiting also the well-established collaborations he has with outstanding Gynaecology Departments.

He received his Laurea degree in Nuclear Engineering in 1997 at Turin Polytechnic Engineering School (Politecnico di Torino) and his Ph.D. in Bioengineering in 2003 at the University of Pisa.
He was research engineer at **CERN** - European Centre for Nuclear Research, Geneva, Switzerland, working on the design and tests of the Large Hadron Collider for high energy physic studies. Then, in 1998 he moved to **EPFL** - Swiss Federal Institute of Technology, Lausanne, Switzerland for a research program on termo-fluidodynamic experiments working on an ASHRAE research investigation. Then he went to **ISBEM** - Istituto Scientifico Biomedico Euro Mediterraneo, Brindisi, Italy for advanced studies in the biomedical field with special focus on image and signal processing of MRI and contrast-enhanced ultrasound data. In 2000 and 2001 he was visiting scientist at **NIH** - National Institute of Health, Bethesda, USA working with P.A. Bandettini in the functional imaging unit for advanced functional and morphological investigations of the brain. From 2002 he is research scientist at the **National Council of Research**, Institute of Clinical Physiology as head of the biomedical engineering science and technology division and director of the Nanoimaging Ultrasound LAB for non-ionizing cellular and molecular imaging through innovative nanosystems for diagnosis and therapy. He is and has been in charge of several national and European research projects. He is Expert Evaluator Panel of the European Commission for the 7th Framework Program (Health, NMP, Etc.). He is **reviewer** of the following international journals: Investigative Radiology, European Radiology, Radiology, Biomaterials, NeuroImage, Magnetic Resonance Imaging, IEEE TMI and others. He is editorial board member of the World Journal of Radiology, International Journal Micro & Nano Sensing Journal, International Journal on Measurement Technologies and Instrumentation Engineering, World Journal of Methodology .
Member and chair of the scientific committee of several scientific associations (NESA, ARISER, ICAR, MIMOS, CARS). He has been invited lecturer at the Bioengineering Course at Lecce University and Invited Professor at 6 national and international master courses on advanced medical imaging methods and techniques. He is Editor in chief of 3 **International Books** and co-author of about 20 book chapters. Author of more 100 scientific articles in peer-reviewed journals, international conference proceedings. Main Inventor of 5 national and international patents and scientific director of the ARISER Conference. Invited speaker in several international conferences. He received several **awards and prizes** as Young Investigator and in 2010 he has been awarded with the National Prize for Innovation by the PNICube National Association as well as by the President of the Italian Republic.

In summary, the following scientific results received significant **recognition and diffusion** from the international research community:
- more than 120 **peer-reviewed international scientific articles** have been accepted from 2004 to 2012;
- 5 international **scientific books** and several book chapters;

- 19 **international investigator awards** have been granted to PI's works in the period 2005-2012;
- 9 **patents** have been granted and several companies collaborate with the PI for their industrial exploitation;
- the **"Italian National Prize for Innovation 2010"** (best among 786 proposals) and the **"Prize of the Prizes 2011 for Innovation in Public Research"** have been awarded to the PI for significant innovations in the field of labor monitoring by the President of Republic G. Napolitano, Italy (see following picture).