CURRICULUM VITAE

SURNAME AND NAME	CASTIGLIONI ISABELLA

Academic Position

Qualification/Title	**Full Professor**
University	**University of Milan-Bicocca**
Department	**Physics**
Academic Recruitment Field	**02/D1**
Academic Discipline (formally named *"Settore Scientifico Disciplinare"*)	**FIS/07**

Working experience

Dates (from .. to..)	**From 25/07/1994 to 19/11/1996**
Name and address of the Employer (Public or/and private institution/body)	**San Raffaele Hospital, Centro San Romanello Foundation of Mount Tabor, via Olgettina 60, Milan.**
Position held	**Research fellow at the Department of Nuclear Medicine-PET Center (Positron Emission Tomography) of the San Raffaele Hospital, Milan.**
Main activities/responsibilities	The research activity concerned the physical characterization of Positron Emission Tomography (PET) systems installed at the Department Nuclear Medicine-PET Center, the development of three-dimensional acquisition protocols and the quality controls of the PET systems.

Dates (from .. to..)	**From 19/11/1996 to 30/09/2020**
Name and address of the Employer (Public or/and private institution/body)	**National Research Council** **Institute of Molecular Bioimaging and Physiology, (IBFM) (former Institute of Neuroscience and Bioimaging), Segrate (Milan)**
Position held	**Permanent researcher**
Main activities/responsibilities	The research activity is carried out in the field of Physics applied to Medicine and Biology and, more recently, to Cultural Heritage (115 publications on Scopus, more than 70% publications with the role of first, corresponding or last author). The research topics concern: 1) physical characterization of diagnostic imaging systems, in particular Positron Emission Tomography (PET), Single Photon Emission Tomography (SPECT), Computed Tomography (CT), Magnetic Resonance Imaging (MRI), fluorescence/bioluminescence imaging, and near-infrared spectroscopy (fNIRS), 2) development of methods of acquisition and processing of diagnostic images for medical and culturale heritage applications, 3) development of methods and models for the correction of physical effects, sources of noise in diagnostic imaging studies (eg attenuation,

scatter, partial volume effect), 4) development of methods of quantification and feature extraction from diagnostic images (eg Statistical Parametric Mapping Analysis, radiomics, principal component analysis, machine learning), 5) creation of synthetic medical image databases for validation of medical image processing and quantitation methods.

The scientific activity can be described in two temporal chapters, the first, from 1997 to 2011, characterized by the participation in a research group operating within a Diagnostic Imaging Unit at the IRCCS San Raffaele Hospital in Milan, with research aimed at the development of quality improvement techniques and quantitative accuracy of diagnostic imaging studies to support oncological and neurological diagnosis; the second period, from 2011 to today, characterized by full autonomy and responsibility in the management of research, with an extension of the field of interest to the study of diagnostic, prognostic and predictive biomarkers of oncological and neurological disease, through integration of diagnostic imaging into molecular diagnostic techniques and therapies, with a translational approach and transfer of results. In this second period, she gained experience in research responsibility through the creation and management of his own research group at the IBFM-CNR, which has consolidated into a research laboratory (Laboratory of Integration and Innovation in Molecular Imaging, INLAB) that included 2 researchers and 12 research fellows since 2011, fully supported through external funding. She has also developed managerial experiences in the presentation and coordination of complex and innovative projects with the relative management of economic resources and the coordination of inter-functional and international work teams. Since 2009 she has coordinated 11 research projects funded on competitive calls and 3 contract research projects for total funding - net of co-financing - of 1,960,589.05 EURO and 13 research projects under formal agreement with IRCCS, Hospitals and Foundations.

She is scientific evaluator of research projects for International Institutions. She has also worked intensively as an Associate Editor, Guest Editor and Scientific Reviewer in international scientific journals in the field of bioimaging and molecular medicine. She helded 45 seminars and invited lessons in national and international conferences, schools and research institutions.

She is co-inventor of four software application licenses for the extraction and quantification of biomarkers from biomedical images, in use at national and foreign healthcare facilities. From 2012 to 2015 she was Mentor of two university spin-offs in the field of physical technologies applied to medicine. Since 2009 she has been a member of the "Network Outreach Knowledge (NetwOrK)" of the CNR (CNR), a network dedicated to the exploitation and technological transfer of research results. She collaborates since their establishment in three public-private consortia (CNR is partner) for the purpose of technology transfer in which she has held important institutional roles. In particular, she has been a Member of the Board of Directors and Coordinator of the "Health-pathologies" Work Table in the Regional Cluster Foundation "Technologies for Smart Cities and Communities" from 2012 to 2017.

She has held 17 teaching positions and has been a co-supervisor of 15 thesis, specialty and research doctorate.

In April 2011 she obtained the Eligibility for the Professional Profile of First Researcher - Level II at the CNR. In December 2017 she obtained

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| | the Eligibility (Abilitazione Scientifica Nazionale) as First Level Professor in Applied Physics (FIS /07). |
| | In november 2018 she obtained the Abilitazione Scientifica Nazionale for Full Professor FIS/07. |

Education and Training

Date	**July 1987**
Institution which issued the degree	**Liceo Scientifico Statale "Leonardo da Vinci", Milano**
Type of Degree awarded	**Bachelor's Degree (60/60)**

Date	**24/03/1993**
Institution which issued the degree	**University of Milan**
Type of Degree awarded	**Master of Science's Degree (110 cum laude/110)**

Date	**10/11/2012**
Institution which issued the degree	**Scuola di Direzione Aziendale, Università Bocconi), Milano**
Type of Degree awarded	**Master in Business and Administration Serale (MBA)**

EVALUATION FIELDS

1. Scientific Activity

Scientific activity can be described following the main stages of scientific path, characterized, for the increasing role of scientific autonomy, by two temporal chapters: **a first temporal period (1997-2011) with the role of first author or co-first author of the research, and a second period (2012-2020) with evidence of research responsibility (corresponding author or last author).**

Regarding the first temporal chapter (1997-2011), the research deals with physics applied to medicine, in particular to *in vivo* imaging in clinical studies, in applications of Computerized Axial Tomography (CT), Positron Emission Tomography (PET), Single Photon Emission Tomography and Magnetic Resonance Imaging (MRI), combined with advanced computational bioimaging techniques, such as Monte Carlo simulations and statistical analyses, iimage correction and quantification, also in collaboration with clinical institutions.

Regarding the second temporal chapter (2011-2020), the research is representative of **physics applied to medicine**, in particular to *in vivo* imaging in clinical studies, in applications of Computerized Axial Tomography (CT), Positron emission tomography (PET) and Magnetic Resonance (MRI),

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-combined with the development of experimental methods for the correction and quantification of medical images, and with medical image analysis methods for biomarker extraction, also in collaboration with clinical institutes, or

-combined with advanced medical image processing techniques, such as radiomics and machine learning, applied to quantitative studies for diagnosis, prognosis and response to therapy, also in collaboration with clinical institutions.

1.1   Coordination and management of research groups

• Participation (Member) in the research activities of the Department of Nuclear Medicine - PET Center of the San Raffaele Scientific Institute, Milan. The center carries out frontier research in the field of medical diagnostic imaging, and boasts prestigious collaborations both nationally and internationally. Participation in the research activities of the Researchers and Medical Specialists of the Department concerned physical aspects applied to medicine, in particular Positron emission tomography (PET), Single photon emission tomography (SPECT), Computed Tomography, Magnetic Resonance (MR) for diagnostic imaging and radiotherapy guidance. She dealt with physical and technological aspects related to: 1) characterization of imaging systems, correction for attenuation, for scatter, and for the effect of partial volume, 2) image processing, coregistration, recovery of resolution, automatic classification, extraction of quantitative biomarkers; 3) simulation models for imaging, synthetic (using Monte Carlo method) and physical models (using anthropomorphic phantoms). From 01-01-2001 to 24-09-2009.

• Participation (Member) in the research activities of the "Division of Neurosciences", of the San Raffaele Scientific Institute, Milan. The Unit develops numerous research projects in the field of structural (MRI) and molecular (PET) neuroimaging in the study of neurodegenerative diseases, in the field of functional neuroimaging (fMRI) for the study of cognitive functions in the normal subjects and their modifications associated with neurological diseases. The unit is part of numerous multi-center projects and European Excellence Networks. Numerous international research collaborations. Participation in the group's research activities concerned the development of protocols for the acquisition, reconstruction and quantification of PET images in neurological studies, in particular in neurodegenerative diseases. She contributed to the development of a semi-quantification method of PET brain images through a statistical parametric analysis approach voxel-a-voxel (Statistical Parametric Mapping). From 22-09-2009 to today.

• Management (Manager) of the Innovation Laboratory Integration in Molecular Imaging (INLAB). The laboratory carries out R & D and Innovation activities in the field of personalized medicine, in particular through the extraction of diagnostic, prognostic and predictive biomarkers of the therapeutic response, obtained through the processing (quantification) and integration of in vivo and ex vivo molecular imaging data. The laboratory resources (personnel, infrastructure) are fully supported by external funding obtained from national and European projects. The Laboratory has formalized specific research agreements with the IRCCS San Raffaele Hospital (Milan), IRCCS Humanitas (Rozzano), Maugeri Foundation (Pavia), IRCCS Medea (Bosisio Parini, Lecco), Signal Processing and Biomedical Applications (SiPBA) - University of Granada (Spain), Clinical Center of Serbia, Policlinic Visegradaska (Serbia), Universiti Putra Malaysia, Serdang (Malaysia). For the organic endowment of the laboratory, as head of research projects, she followed staff recruitment procedures (also participating in competition commissions) and, as an instructor point, she followed procedures for the purchase of equipment and infrastructures, guaranteeing compliance. She supervised the laboratory communication to the outside through the laboratory website (http://inlab.ibfm.cnr.it). It handles the editorial preparation of the annual laboratory journal (INLAB Focus), freely downloadable from the site, which summarizes the most important scientific results of the year. From 15-02-2012 to today.

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• Participation (Member) in the research activities of the Milan Center for Neuroscience (NeuroMi) (http://neuromi.it). The Center's mission is to promote, at a national and international level, multidisciplinary research and training in the field of neuroscience, for the study of nervous system functioning mechanisms and dysfunctions at different ages. Participates in the research activities of the group "Neuroimaging and Methodological research" within the center, with regard to the development of acquisition protocols, quality improvement methods, resolution recovery, quantification and automatic classification of neuroimaging (PET, MRI, fMRI). From 09-04-2015 to today.

• Co-supervisor of 16 thesis / specialty / Ph.D. in Physics applied to Medicine. From 01-07-2000 to 01-07-2015.

• Responsible for the research activity of 12 researchers in the field of Physics applied to Medicine (2 fixed-term researchers, 10 research fellows). From 10-05-2011 to today.

1.2 Scientific responsibility (Principal Investigator) of competitive National and International research projects, awarded through a peer-review process.

• Scientific Coordinator of the CNR Research Unit in the European Project "DECIDE: Diagnostic Enhancement of Confidence by an International Distributed Environment" (Grant Agreement No. 261593, 7th Framework Program, loan granted by the European Commission to the IBFM-CNR: 314.078, EUR 00). From 30-09-2009 to 31-03-2012.

• Scientific Coordinator of the IBFM-CNR Research Unit in the Flag project "INTEROMICS: Development of an integrated platform for the application of the" omics "sciences to the definition of biomarkers and diagnostic, predictive, and teranostic profiles" (funding provided by the MIUR all 'IBFM-CNR: EUR 180,000,03). From 01-01-2012 to 01-01-2015.

• Scientific Coordinator of the IBFM-CNR Research Unit in the "Personalized Medicine" Prize project (WP N. 2.10) (loan granted by MIUR to the IBFM-CNR for WP No. 2.10: 196,000.00 EUR). From 01-01-2012 to 30-06-2014.

• Scientific Coordinator and of the IBFM-CNR Research Unit in the "Care-G: a service platform for health care and quality of life of the elderly" (Operational Agreement No. 18094, Total project cost: EUR 1,123.400, loan granted by the Lombardy Region to the IBFM-CNR: EUR 183.750,02) From 25-07-2013 to 31-10-2015.

• Scientific Coordinator of the IBFM-CNR Research Unit in the "IMINET" project (WP No. 1 and 6) (loan granted by MIUR to the IBFM-CNR for WP 1 and 6: EUR 61.429,00). From 01-01-2014 to 01-01-2015.

• Project Scientific Coordinator and IBFM-CNR Research Unit in the "IMAPRINT" project (loan granted by the Lombardy Region to the IBFM-CNR: EUR 12.500,00). From 01-07-2015 to 31-12-2015.

• Project Scientific Responsible and IBFM-CNR Research Unit in the "Smart Care Giver" project (loan granted by the Lombardy Region to the IBFM-CNR: EUR 12,500.00). From 01-07-2015 to 31-12-2015.

• Scientific Coordinator of the IBFM-CNR Research Unit in the project "GIOTTO, Italy: beyond the image" (loan granted by the Cariplo Foundation to the IBFM-CNR: EUR 30,000). From 01-10-2015 to 31-12-2016.

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• Project Scientific Coordinator and IBFM-CNR Research Unit in the "MOBARTECH Project: a mobile, interactive and participatory technological platform for the study, conservation and enhancement of historical-artistic assets" (Total project cost: 7.448, EUR 937.72, loan granted by the Lombardy Region to the IBFM-CNR: EUR 401,532.00). From 03-10-2016 to today.

• Scientific Coordinator of the IBFM-CNR Research Unit in the Premiale project "aging: technological and molecular innovations for the improvement of the health of the elderly and isolated populations" (WP N. 2.1 and 2.2) (funding provided by MIUR at the IBFM- CNR for WP No. 2.1 and 2.2: EUR 418.800.00). From 01-01-2017 to today.

• Scientific Coordinator of the IBFM-CNR research unit in the project "Radiomics of FDG PET and CT to genetic assessment and patients with lung lesions" (funding admitted by the Italian Association for Cancer Research - AIRC at the IBFM-CNR EUR 40,000.00). From 01-01-2017 to today.

1.3 Scientific responsibility of National and International research projects, ruled through partnership agreements with companies and/or public private bodies, which are leaders in their own sector.

• Scientific Coordinator for IBFM-CNR of the "Monte Carlo Simulation Techniques PET and PET-CT" Research Line, "Bioimaging Physics" Research Theme. From 01-01-2000 to 01-01-2009.

• Scientific Coordinator (paid title) of the "Quantification problems in PET-CT clinical trials" (Centro S. Raffaele Del Monte Tabor, Milan). From 01-07-2005 to 31-12-2005.

• Scientific Coordinator for the Department of Medicine of the CNR of the "Proteogenomics, bioimaging and molecular medicine" (ME.P06.026), with the role of coordinating the activities of 4 research lines involving 15 IBFM researchers. The 4 research lines are: 1) genomics in oncology for the study of phosphorylation; 2) Proteomics in healthy tissue and cancer for the identification of biomarkers; 3) Proteogenomics in radiotherapy for the study of biological effects of radiation; 4) Molecular and proteogenomic imaging. The innovative aspect of the research, characterized by a strong transactional content, is the integration of the information obtained through in vivo (PET / CT) and proteogenomic molecular imaging, aimed at the development of new protocols and biomarkers for the prognosis, diagnosis and therapy of multifactorial diseases. From 08.10.2008 to today.

• Scientific Responsible for the Department of Medicine of the CNR Project "Oncology: mechanisms and applied technologies" (ME.P03) ", with the role of coordination of the activities of 8 Institutes of the CNR, of 8 Sub-projects and 26 and lines of research. project brings together physical technologies and basic research applied to in vivo molecular imaging studies, study of new labeled molecules such as new contrast agents, study of mechanisms of regulation of oncogenesis and differentiation of numerous multifactorial diseases. From 01-01-2009 to today.

• IBFM Research Agreement - Niguarda Hospital, Scientific Responsible of the Project: "Implementation of a web service for the statistical analysis of PET and SPECT brain studies to support neurological diagnosis". From 16-03-2012 to today.

• Scientific Responsible for the Cluster Lombard Foundation "Technologies for Smart Cities and Communities" of the Foundation's "Health / Disease" study group (elective office of the Foundation's members: CNR, University of Milan-Bicocca, University of Pavia, University of Brescia, University of Bergamo, Catholic University of the Sacred Heart, and IRCCS Cà Granda Foundation - Ospedale Maggiore Policlinico).

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The group is focused on "intelligent" technologies and methodologies to support the prevention, diagnosis and therapy of diseases, in particular with a personalization approach to interventions, with a view to "personalized medicine". The aim is to valorise the skills, resources and technologies of the scientific organizations belonging to the group (eg advanced diagnostic systems for clinical studies, telemedicine, decision support systems, sensors for the measurement and monitoring of chemical-physical parameters, robots for assistance and rehabilitation). From 27-05-2014 to today.

• IBFM Agreement - "La Nostra Famiglia" Association, IRCCS Scientific Section "Eugenio Medea". Scientific Responsible of the Project: • Protocol of assessment of cerebral metabolism through the non-invasive NIRS method in pediatric and young adult patients with neuropsychiatric pathologies and in pediatric population with typical development. From 01-07-2014 to 01-06-2016.
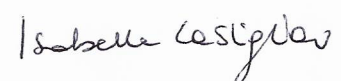
• IBFM Agreement - Salvatore Maugeri Foundation Clinic of Work and Rehabilitation: Scientific Project Leader: • "Evaluation of the role of qualitative and quantitative PET imaging with fluoride in patients with clear cell kidney cancer"; • "Evaluation of the role of quantitative PET imaging with 18F-FDG in breast cancer patients; • "Evaluation of in vivo and ex vivo biomarkers for the prediction of the response to chemotherapy in patients with metastatic resistance-resistant metastatic prostate cancer: qualitative / quantitative PET / CT imaging with 18F-Fluorocolin and analysis of circulating tumor cells"; • "Evaluation of the role of PET imaging with 18F-FDG in patients with rectal cancer for the prediction and monitoring of the response to chemotherapy; • "Study and evaluation of the role of PET with 18F-FDG and MRI, combined with advanced image analysis algorithms, in neurodegenerative diseases and brain tumors; • "Validation on human tissues of genomic and epigenomic signatures for the accurate diagnosis of breast cancer"; • "Validation of the Statistical Parametric Mapping method applied to 18F-FDG brain studies in neurological diseases"; • "Evaluation of the prognostic role of [123-I MIBG] imaging of the sympathetic nervous system to define appropriate ICD therapy in patients with heart failure and to predict ventricular arrhythmias that require appropriate pacemaker-defibrillator implant therapy ". From 02-02-2015 to today.

• Scientific Responsible for the IBFM-CNR of the "Molecular Imaging" Project (DSB.AD008.165). The project involves researchers from the Segrate and Genoa offices related to the IBFM research area "Molecular Imaging". The research approach is based on the combination of diagnostic imaging with clinical data, with the aim of extracting imaging biomarkers useful for the diagnosis of multifactorial diseases. The project takes advantage of strong formalized collaborations with research centers of excellence (eg ESRF, Grenoble) and clinical facilities (San Raffaele Institute, other IRCCS, Universities and Hospitals) for access to large diagnostic imaging and therapy facilities (PET, CT, MRI, tomotherapy, radiotherapy). From 01-01-2016 to today.

• Technical manager for the IBFM-CNR (CNR-IBFM technical-scientific cooperation agreement, SPR and CNR Information Systems) of the contract research project (financing: € 30,000) for the development of cloud computing tools and services, storage and digital library to support the research activities carried out under the DHTCS-IT Project "Distributed High Throughput Computing and Storeage in Italy", a project aimed at the development of the Italian Grid network infrastructure (IGI), with open cloud services as Infrastructure-as-a-Service (IaaS), cloud computing / network systems and services and storage for document management, publication of data sets in open formats (Linked Open Data) and the use of digital library. It is responsible for: a) the development of applications to be used in the field of Cloud Computing for the Bioimaging and Molecular Physiology sector; b) the provision of a representative sample of datasets extracted from the databases of the Bioimaging and Molecular Physiology sector, for the purposes of the population of the Science and Technology Digital Library, with particular reference to the application of advanced image processing techniques for the extraction and enhancement of information; c) experimentation of models of Cloud Computing functional to the management of databases in the field of Bioimaging and Molecular Physiology. From 09-06-2016 to today.

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• Scientific Coordinator for the CNR Institutes IBFM, IGM, IN, ITB, IRGB, IFC, ICRM of the activities of the "Diagnostics" Study Group of the Recognized Cluster Association "Life Sciences". The Cluster brings together all public and private actors (more than 60 members) with operational headquarters in Lombardy and engaged in the fields of advanced diagnostics and therapy, pharmaceuticals, medical devices and technologies applied to health. The working group is focused on the problem of diagnostics in its various modalities, both in vivo and in vitro, including large medical devices and diagnostic devices. The interests of the working group extend from the diagnostic modalities already presently used in clinical practice to the most innovative researches. From 14-02-2017 to today.

• Agreement pursuant to Article 15 of Law no. 241/1990 IBFM-University of Milan-Bicocca. Scientific Coordinator for IBFM-CNR of the contract research project (funding: € 40,000) "Development of new methods of computational analysis of in vivo bioimaging for the diagnosis and personalized prognosis of the cancer patient". From 23-02-2017 to today.

• IBFM Convention - Humanitas Clinical Institute. Project Scientific Responsible: • Radiomics of FDG PET and CT to assess genetic profile and outcome in patients with lung lesions; • Radiomics of FDG PET for diagnosis and characterization of breast cancer; • Evaluation of the SPM analysis of [18F] PET / CT From 28-02-2017 to today.

1.4 Outcomes obtained in the field of technology transfer, in terms of participation in start-ups and spin-offs, development, use and commercialization of patents/licenses.

• Member of the "Knowledge Outreach Network (Network), a network of CNR researchers and technologists with experience in the field of valorization, transfer and dissemination of CNR research results promoted by the CNR Technology Transfer Office, dedicated to the valorization and technological transfer of CNR research results (http://www.cnr.it/networksito/) From 07-07-2009 to today.

• Development of the "Touch-SUV" software patent (Authors: Castiglioni I, Gallivanone F, Stefano A), registered at the Italian Society of Authors and Publishers (SIAE) on 22 December 2009, serial number 007449, order number D006667. From 12/22/2009 to today

• Development of the software patent "cOuch" (Authors: Castiglioni I, Gallivanone F, Grosso E, Stefano A), registered with the Italian Society of Authors and Publishers (SIAE) on 6 December 2011, number 008239, order number D007436. From 06-12-2011 to today.

• Participation in the creation of the spin-off of the University of Bologna CellDynamics srl (Http://celldynamics.jigsy.com/). The spin off was born with the aim of marketing a new miniaturized device that allows the execution of complex cellular analyzes. He took care of the presentation of the spin-off, including the business plan (attached), in national competitions, such as the StartCup Spinner 2013 Competition - People in the Future, in 2013 (the spin off was ranked first), the Start Cup Emilia Romagna 2013 (the spin off was ranked third) and the National Award for Innovation (the spin off was ranked third). The launch of the spin off in the market took place in 2015. From 02-07-2012 to 31-12-2013.

• Development of the software patent "STRAT" (Authors: Castiglioni I., Gallivanone F), registered at the Italian Society of Authors and Publishers (SIAE) on 28 December 2012, serial number 008677, order number D007822. From 28-12-2012 to today.

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• Participation in the creation of the spin off of the University of Florence Probiomedica srl (Www.probiomedica.it), as Mentor. The spin off was born with the aim of marketing an inexpensive microcapsule for the treatment of Helicobacter pylori. The microcapsule is based on photonic technologies and biological principles. He took care of the intellectual property aspects and supported the definition of the industrial plan during the Unipol Program "Idee Mentorship", Bologna. The launch of the spin off in the market took place in 2016. From 29-10-2014 to 16-01-2015.

• Development of the software patent "TRACE4AD" (Authors: Castiglioni I, Salvatore C), registered with the Italian Society of Authors and Publishers (SIAE) on 30 June 2017, progressive number 011673, order number D010781. From 30-06-2017 to today.

• Member of the Editorial Board of Triwu '(www.triwu.it), a structure that operates in the communication of science, technology and innovation through science transmissions to Radio 24, thus addressing a large audience, or for more targeted audiences with media media online, deals with the dissemination of Physical Technologies and Informatics applied to different sectors such as Medicine, Biology, Cultural Heritage. She is also the moderator of a column within the "Cafè Triwù" transmission - an online TV transmission dedicated to Research and Innovation (www.triwu.it/cafè_triwu), a fortnightly meeting in which topics related to innovation, her economic and social consequences, the challenges to be faced in Italy and the goals achieved. From 01.11.2012 to today.

1.5   Participation in the Editorial Board of Journals with international reputation (in the role of Associate Editor or equivalent), participation in the Editorial Board of book series, encyclopedias and essays of recognized prestige.
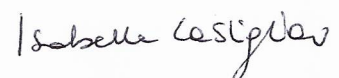
• Associate Editor. Medical Physics (I.F. 3.07). From 08-11-2010 to 01-04-2011.

• Guest Editor. Special Issue "Statistical signal processing in the analysis, characterization and detection of Alzheimer's disease" in Current Alzheimer's Research (I.F. 3.145). From 01-07-2014 to 15-09-2015.

• Guest Editor. Special Issues "Frontiers in Biomarkers for theranostics" in Frontiers in Bioscience - Landmark (I.F. 3.52). From 25-03-2016 to today.

• Guest Editor. Special Issues "Frontiers from Radiomics in Molecular Imaging" in Contrast Media and Molecular Imaging (I.F. 3.145). From 01-01-2017 to today.

• Scientific reviewer for ISI international scientific journals in the field of Physics applied to Medicine and Biology, such as: Medical Physics, Physics in Medicine and Biology, European Journal of Nuclear Medicine and Molecular Imaging, IEEE Transactions on Nuclear Science. From 01-01-2000 to today.

1.6   Prizes and awards awarded for scientific activity and project activity in the Academic Fields (*"Settori Concorsuali")*, where this is appropriate.

• Tutor of Foreign Scientific Visitors for the International Atomic Energy Agency (IAEA) at the PET Center of the San Raffaele Scientific Institute. From 04-09-2007 to 18-07-2008.

• CNR representative at the Shareholders' Meeting of the LATO HSR-Giglio Scarl Society (HSR Giglio Oncological Technologies Laboratory) (public-private consortium). The consortium company is the site of advanced diagnostic

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technologies, in particular of diagnostic imaging, and of cancer therapy, in particular radiotherapy. It provides R & D services to support the diagnosis and advanced therapy of oncological diseases, with a translation approach. From 07-03-2011 to 23-04-2013.

• Representative (substitute) for the CNR in the Coordination Committee of the Joint Research Unit (Public-Private Consortium) "RI-BIG: Italian Group of Biomedical Research Infrastructure". The JRU carries out research and development activities in the field of research infrastructures and digital services for research and medical practice in the field of distributed databases of biomedical data, with particular regard to bioimaging, the development of protocols for acquisition and processing of data and development of radiation treatment plans. From 25-07-2011 to today.

• Member of the Board of Directors of the Cluster Lombard Foundation "Technologies for Smart Communities & Cities" (Public-Private Consortium). The Foundation was legally recognized in September 2014, and counts among its founding members more than 100 small, medium and large companies, research institutions and public bodies in the Lombardy region. The Foundation provides support services to innovation, growth and development to the founders and works as advisor with respect to strategic development issues for the Lombardy Region's Smart Specialization. From 27-05-2014 to today.

• External referee for the "French Institute National du Cancer" in Scientific Projects "Translational Cancer Research 2015" from 03-05-2015 to 03-06-2015

• External referee for the European Commission in scientific projects "FET Proactive topic" emerging themes and communities "- area 2 Biotech for better life" (Horizon 2020, topic FETPROACT-01-2016). From 10-02-2016 to today

• External referee for the "Poland National Science Center" in "Life Sciences" Scientific Projects (SONATA funding scheme). From 14-09-2016 to 14-10-2016.
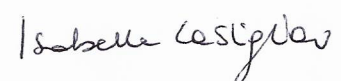
Selected amongh the top 100 womens ….

1.7 Participation in national and international conferences, as a distinguished invited speaker.

• Participation as a speaker. Seminar by invitation: "Monte Carlo methods in PET". Scientific event: "Technologies and Methodologies for Conformal Radiotherapy", High School of Physics in Medicine P. Caldirola, Como (Organizer: Center of Scientific Culture "Alessandro Volta", Villa Olmo, Como). From 11-11-1996 to 15-11-1996.

• Participation as a speaker. Seminar by invitation: "Monte Carlo PET Methods: 1st Imaging Update Course". High School of Physics in Medicine P. Caldirola, Como (Organizer: Center of Scientific Culture "Alessandro Volta", Villa Olmo, Como). From 07-04-2000 to 08-04-2000.

• Participation as a speaker. Seminar by invitation: "Advance instrumentation PET and PET / CT systems", X Brazilian Congress of Medical Physics, Salvador de Bahia, Brazil (Organizer: Associacao Brasileira de Fisica Medica). From 25-05-2005 to 29-05-2005.

• Participation as a speaker. Invited seminar: "Quantitative analysis of brain images". Course "PET-SPET molecular imaging: technologies and methods". High School of Physics in Medicine P. Caldirola, Gazzada (Va) (Organizer: Center of Scientific Culture "Alessandro Volta", Villa Olmo, Como). From 14.11.2005 to 16.11.2005.

• Participation as a speaker. Seminar by invitation: "Statistical analysis of SPET / PET images" in the Business Course for Nuclear Physicians "Functional Neuroimaging Techniques SPET and PET", Nuclear Medicine Unit of the San Raffaele Scientific Institute (Organizer: Prof. Daniela Perani, San Raffaele Vita-Salute University). From 21-02-2006 to 21-02-2006.
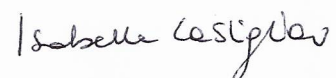
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• Participation as a speaker. Invited seminar: "Differences between the latest generation CT-PET systems", PET center, San Raffaele Hospital, Milan. (Organizer: Prof. Cristina Messa - Head of Nuclear Medicine, Molecular Bio-imaging Center, San Gerardo Hospital, Monza). From 21-02-2006 to 21-02-2006.

• Invitation class ("G. Brotzu" Hospital, Cagliari, University of Pisa) "Statistical analysis of SPET / PET neurological images", refresher course "Medical physics: clinic, technology, research". From 16.11.2006 to 17.11.2006.

• Participation as a speaker. Seminar by invitation: "Telemedicine". Opening event of the PET-CT center of the Sao Raphael Hospital in Salvador de Bahia, Brazil, (Organizer: Sao Raphael Hospital, Salvador de Bahia, Brazil). From 02-03-2007 to 02-03-2007.

• Participation as a speaker. Invited seminar: "Methods of data analysis and their impact on diagnostics". V Italian Congress of the Italian Association of Medical Physics (AIFM), Castelvecchio Pascoli (Lu), (Organizer: Italian Association of Medical Physics). From 20-09-2007 to 20-09-2007.

• Participation as a speaker. Seminar by invitation: "Imaging Techniques - Nuclear Medicine - Data Analysis", "Training Course of highly qualified researchers and laboratory technicians in the study of new diagnostic technologies", Laboratory of Oncological Technologies HSR-Giglio Soc. Cons. to. r. l., Cefalu '(Pa). (Organizer: Laboratory of Oncological Technologies HSR-Giglio Soc. Cons.a.r.l). From 03-03-2008 to 03-03-2008.

• Participation as a speaker. Invitation reading: "Future prospects of in vivo molecular imaging in applied research". Event "Innovative Methods in Applied Medical Research". Project "Research training and creation of research network of the Emilia Romagna region and University of Bologna, SC Physical Health Policlinico, Parma (Organizer: School of Health Physics Specialization, University of Bologna). From 11-04-2008 to 11-04-2008 .

• Participation as a speaker. Invitation reading: "The experience of the physician in the diagnostic optimization of the methods of data analysis". Round Table "Which computer science today and tomorrow for Medical Physics?", University of Milan, (Organizer: School of Specialization in Health Physics, University of Milan). From 18-04-2008 to 18-04-2008.

• Participation as a speaker. Invitation reading: "Description and validation of Monte Carlo PET simulators". Course "Physics, Dosimetry and Optimization in Diagnostics and Nuclear Medical Therapy", High School of Physics in Medicine P. Caldirola, Gazzada (Florence) (Organizer: Center of Scientific Culture "Alessandro Volta", Villa Olmo, Como). From 14-05-2008 to 16-05-2008.

• Participation as a speaker. Seminar by invitation: "Monte Carlo Methods in PET." IX National Congress of the Italian Association of Nuclear Medicine, XIX Professional Refresher Course in Nuclear Medicine and Molecular Imaging "Imaging and Molecular Therapy", Florence (Organizer: Italian Nuclear Medicine Association). 20-03-2009 to 24-03-2009.

• Participation as a speaker. Invited seminar: "Define quantification limits with SUVs (PET-FDG)". IX National Congress of the Italian Association of Nuclear Medicine, XIX Professional Refresher Course in Nuclear Medicine and Molecular Imaging "Imaging and Molecular Therapy", Florence (Organizer: Italian Association of Nuclear Medicine and Molecular Imaging). From 20-03-2009 to 24-03-2009.

• Participation as a speaker. Invitation reading: "Defining the clinical use of the SUV in diagnostics (PET-FDG)" IX National Congress of the Italian Association of Nuclear Medicine, XIX Professional Refresher Course in Nuclear Medicine and Molecular Imaging "Imaging and Molecular Therapy", Florence (Organizer: Italian Association of Nuclear Medicine and Molecular Imaging). From 20-03-2009 to 24-03-2009.

• Participation as a speaker. Invited seminar: "SPM: technical aspects". IX National Congress of the Italian Association of Nuclear Medicine, XIX Professional Refresher Course in Nuclear Medicine and Molecular Imaging "Imaging and Molecular Therapy", Florence, (Organizer: Italian Association of Nuclear Medicine and Molecular Imaging). From 20-03-2009 to 24-03-2009.

• Participation as a speaker. Invited seminar: "Instrumentation and innovative techniques in molecular imaging". VI National Congress of the Italian Association of Medical Physics, Reggio Emilia (Organizer: Italian Association of Nuclear Medicine). From 16-09-2009 to 19-09-2009.

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• Participation as a speaker. Invited seminar: "Instrumentation and innovative techniques in molecular imaging". Conference on Physics and Radiotherapy "New frontiers between high tech and post genomics", Perugia, (Organizer: Italian Association of Nuclear Medicine). From 02-07-2010 to 02-07-2010.

• Invited Report: (International Conference on Alzheimer's Disease - ICAD) "GriSPM: an user friendly web tool to evaluate brain metabolic perfusion in patients with suspected Alzheimer's disease" workshop "the assessment of imaging biomarkers for early and differential diagnosis of Alzheimer's disease ". From 18-07-2011 to 18-07-2011.

• Participation as a speaker. Presentation by invitation: "FP7-Eu project DECIDE:" e-services for the assisted diagnosis of neurodegenerative diseases ". Annual Bioengineering Congress, Bressanone (Organizer: National Bioengineering Group). From 20-09-2011 to 20-09-2011.

• Participation as a speaker. Invitation reading: "PET for the staging of Alzheimer's disease and aging". III Aging and Longevity Convention. Annual Report of CNR Aging Project, Venice (Organizer: Scientific Secretariat, Aging and Longevity Convention). From 09-11-2012 to 09-11-2012.

• Participation as a speaker. Invitation reading: "The prognostic and predictive value of in vivo molecular imaging", Workshop "The era of personalized medicine: the role of quantitative imaging in nuclear medicine", Bologna (Organizer: Italian Association of Medical Physics). From 08-05-2013 to 10-05-2013.

• Participation as a speaker. Invitation reading: "Quantitative analysis in molecular imaging: when model and estimation of parameters make the difference", Satellite Symposium at the XIII National Congress of the Association of Medical Physics: "Molecular imaging: diagnosis in the age of care personalized medicine, Turin (Organizer: Italian Association of Medical Physics) From 20-11-2013 to 20-11-2013.

• Participation as a speaker. Seminar by invitation: "Research funding in Cystic Fibrosis: preparing a successful proposal", "First Italian Young Investigator Meeting" Conference Rome (Organizer: Italian Society for Cystic Fibrosis Research). From 16-01-2015 to 17-01-2015.

• Participation as a speaker. Invited seminar: "Machine learning and in vivo imaging of the brain", at DISCO-Department of Computer Systems and Communication, University of Milan-Bicocca, Milan (Host: Prof. Giancarlo Mauri, Director DISCO). From 28-01-2015 to 28-01-2015.

• Participation as a speaker. Lecture by invitation: "Frontiers in SVM and brain imaging", Workshop "Images of the mind: new frontiers in brain imaging", Milan (Host: Neuro-Mi Interdepartmental Center, University of Milano-Bicocca) from 09-04-2015 to 04/10/2015

• Participation as a speaker. Invitation reading: "Beyond the images", International workshop on imaging, Villa Monasterio, Varenna (Organizer: Piero Caldirola International Center for the promotion of science and the international school of plasma physics). From 07-09-2015 to 10-09-2015.

• Participation as a speaker. Invited seminar: "Advance image processing of in vivo molecular imaging for the diagnosis, prognosis and therapy", Humanitas University, Rozzano, Milan (Organizer: Prof. Arturo Chiti, Head of the Nuclear Medicine Department). From 18/11/2015 to 18/11/2015.

• Participation as a speaker. Invited seminar: "In vivo textural-based imaging biomarkers for prediction of response to radiotherapy", National Center for Oncological Adrotherapy, Pavia (Organizer: Dr. Sandro Rossi, CNAO General Manager). From 29-02-2016 to 29-02-2016.

• Participation as a speaker. Invited seminar: "Multimodal imaging in oncology: what's next for". Conference "The role of advanced imaging diagnostics in prostate neoplastic pathology", Tecnomed Foundation, University of Milan-Bicocca, Milan (Organizer: Dr. Sergio Todde, Tecnomed General Manager). From 09-03-2016 to 09-03-2016.
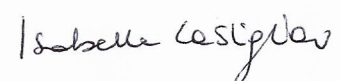
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• Participation as a speaker. Invited seminar: "Machine learning and molecular imaging: in vivo and ex vivo preclinical and clinical studies", University Magna Grecia, Catanzaro (Organizer: Prof. Antonio Quattrone, Rector of Magna Graecia University, Catanzaro). From 25-03-2016 to 25-03-2016.

• Participation as a speaker. Invited seminar: "In vivo molecular imaging: thinking beyond the image", SDN-Nuclear Research and Diagnostic Institute, Naples (Organizer: Prof. Marco Salvatore, University of Naples). From 03-05-2016 to 03-05-2016.

• Participation as a speaker. Presentation by invitation: "The Giotto's workshop in the XXI century through the scientific studies of the Cusp of San Diego". ICOM 24th General Conference Museum and Cultural Landscape, at Palazzo Reale, Milan (Organizer: Municipality of Milan - Culture and Royal Palace). From 01-07-2016 to 01-07-2016.

• Participation as a speaker. Seminar by invitation: "Radiomics and artificial intelligence for public-private collaborative projects", at Assolombarda, Milan (Organizer: Dr. Ruggero Berti, Manager of Assolombarda). From 04-10-2016 to 04-10-2016.

• Participation as a speaker. Seminar by invitation: "Imaging and Giotto: a multimedia installation for the general public", Conference "The role of the University of Milan-Bicocca in the society" at Villa Monasterio, Varenna (Co) (Organizer: Dott.ssa Anna Brajkovic, University of Milan-Bicocca). From 05-11-2016 to 05-11-2016.

• Participation as a speaker. Seminar by invitation: "Competitive Radiomics", at the Italian Diagnostic Center, Bracco Group, Milan (Organizer: Dr. Sergio Papa, Diagnostic Imaging Center for Italian Diagnostic Center). From 18-11-2016 to 18-11-2016.

• Participation as a speaker. Invitational Seminar: "In vivo Molecular Imaging: at the Institute of Chemistry of Molecular Recognition, National Research Council, Milan (Organizer: Marcella Chiari, ICRM Research Manager). From 30-11-2016 to 30-11-2016.

• Participation as a speaker. Seminar by invitation: "key miRNA in breast cancer: a multidisciplinary approach". SYSBIO Symposium - Center of Biology Italian Research Infrastructure -ISBE Associate Partner, at the Biotechnology and Biosciences Department, University of Milano-Bicocca, Milan (Organizer: Lilia Alberrghina, SYSBIO Director). From 11-05-2017 to 11-05-2017.

• Participation as a speaker. Seminar by invitation: "Towards Radiomics", at the Department of Nuclear Medicine of ASST GOM Niguarda of Milan (Organizer: Claudio Rossetti, Director of SC Nuclear Medicine of ASST GOM Niguarda of Milan). From 19-06-2017 to 19-06-2017.

• Participation as a speaker. Seminar by invitation: "Radiomics in Nuclear Medicine". Scientific event: "Radiomics and intelligent imaging: a timeline", Teatro Agorà - Triennale di Milano (Organizer: Italian Dignostic Center, Milan). From 28-06-2017 to 28-06-2017.

• Participation as a speaker. Round Table: "Inside Caravaggio and the secrets revealed by scientific analysis", Teatrino of Palazzo Visconti (Organizer: Bracco Foundation, Miano). From 24-01-2018 to 24-01-2018.

• Participation as a speaker. Invited seminar: "Elaboration of diagnostic images of art: an investigative tool". Scientific Event - Study Day: Inside Caravaggio. Milan, Palazzo Reale (organizer Rossella Vodret and Claudio Falcucci). From 30-01-2018 to 30-01-2018.

Participation as a speaker. Invited seminar: "MOBARTECH: a mobile, interactive and participatory platform for the study, conservation and valorization of historical and cultural heritage". Workshop – BIPAC (Centro interdipartimentale di ricerca sul patrimonio storico artistico e culturale). Milan, University of Milan-Bicocca (organizer: University of Milan-Bicocca). From 27-02-2018 to 27-02-2018.

Participation as a speaker. Invited seminar: "Diagnostic imaging for the study and authentication of art works". Scientific Event - Don Thompson and the 12 million dollars shark. Milan, University of Milan-Bicocca (organizer: Prof. Paolo Galli, Director of Mahre Center, University of Milan-Bicocca). From 27-02-2018 to 27-02-2018.

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Participation as a speaker. Invited lecture: "Behind the scenes of famous painters with artistic diagnostics", Bracco Foundation Theatre, Milan (organizer: Dott.ssa. Elisabetta Patti, Bracco Foundation). From 03-12-2019 to 03-12-2019.

Participation as a speaker. Invited lecture: " Meaning and stability of radiomic features in PET", Centro Diagnostico Italiano, Milan. Workshop: "Radiomica il futuro e' qui" (organizer: Centro Diagnostico Italiano SPA). From 26-10-2018 to 26-10-2018.

Participation as a speaker. Invited lecture: " Meaning and stability of radiomic features in PET, City of Science, Naples. Workshop: "Radiomica il futuro e' qui" (organizer: Centro Diagnostico Italiano SPA). From 17-11-2018 to 17-11-2018.

Participation as a speaker. Invited presentation: "The project MOBARTECH", Palazzo Pirelli, Milan. Annual Event POR FESR" (organizer: Regione Lombardia). From 18-12-2018 to 18-12-2018.

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Participation as a speaker. Invited lecture: "Scientific investigations in the work of art". Third meeting of the LDA commission / Commission for Law and Art) "The counterfeiting of art work" (organizer: Avv. Gloria Gatti, CRINT and LDA member of the Council of the Lawyer Association of Milan). From 15-01-2019 to 15-01-2019.

Participation as a speaker. Invited lecture: "Diagnostics". Postgraduate course in "Art and Law", University of Milan (organizer: Prof. Laura Castelli, Department of Private Law and History of Law, University of Milan). From 06-03-2019 to 06-03-2019.

Participation as a speaker. Invited seminar: "Radiomics and radiogenomics in cancer". Workshop: "Data driven genomic computing", Como, Polytechniques of Milan (organizer: Prof. Giuseppe Ceri, Department of Electronics, Information and Bioengineering, Polytechniques of Milan). From 07-03-2019 to 07-03-2019.

Participation as a speaker. Invited lecture: " Processing of in vivo imaging data". School: "Optical Imaging", Segrate, Milan (organizer: Prof. Maria Carla Gilardi, Institute of Molecular Bioimaging and Physiology, National Research Council). From 15-03-2019 to 15-03-2019.

Participation as a speaker. Invited lecture: "Radiomics: repeatability, reproducibility and significance". Event "Milan Day of Next Generation Sequncing (NGS): Data Management", Department of Computer Science, Systems and Communication (DISCO), University of Milan-Bicocca (organizer: Prof. Marco Antoniotti, DISCO, University of Milan-Bicocca). From 15-04-2019 to 15-04-2019.

Participation as a speaker. Invited lecture: "In vivo Molecular Imaging: from diagnosis to prognosis and prediction of treatment response". University of Milan (organizer: Prof. Luisa Ottobrini, University of Milan). From 14-05-2019 to 14-05-2019.

Participation as a speaker. Invited seminar: "The clinical role of radiomics". 19° Conference of Italian Association of Clinical Engeneers (AIIC), Università Magna Grecia, Catanzaro (organizer: AIIC Scientific Commitee). From 18-05-2019 to 18-05-2019.

Participation as a speaker. Invited lecture: "Computational methods for the quantification and integration of medical images with clinical and -omic data". Cancer Development and Complexity (CDAC) Lake Como School in Advanced Studies, Como (organizer: Prof. Marco Antoniotti, University of Milan-Bicocca). From 29-05-2019 to 29-05-2019.

Participation as a speaker. Invited lecture: "Radio(epi)genomics: imaging phenotype and genotype". 2019 Cancer Development and Complexity (CDAC) Lake Como School in Advanced Studies, Como (organizer: Prof. Marco Antoniotti, University of Milan-Bicocca). From 29-05-2019 to 29-05-2019.

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> **1.8 Management and organisation of exhibitions, compositions, drawings, design, hand-crated items, prototypes, artwork and their projects, databases and software, thematic maps, for the Academic Fields ("Settori Concorsuali"), where this is appropriate.**

• Head of the Laboratory open to the public "Imaging Imagination", an interactive laboratory of Physics applied to Neuroscience at the Festival della Scienza, Genoa, 2012. The laboratory illustrated how image diagnostics applied to the functional and structural study of the brain can help to study and explain the mechanisms underlying our imagination. The laboratory, presented through interactive and multimedia modes, has been visited by 1800 people. From 25-10-2010 to 25-10-2010.

• Responsible for the public multimedia exhibition at the "Giotto: l'Italia" exhibition at Palazzo Reale, Milan. The installation has virtually recreated the painting cycle of Giotto's Peruzzi Chapel, which is revealed by the fluorescence light stimulated on the ultraviolet radiation frescoes. She worked on the scientific project to reconstruct fluorescence images, on the installation project (in collaboration with Mario Bellini Architect, Palazzo Reale, Mondadori Electa, University of Milan-Bicocca) and public communication. The meidatic impact of the event is dimmed by articles and media services published by newspapers such as Corriere della Sera, La Repubblica, Avvenire, Il Giornale, Il Giorno, Il Sole24ore. From 15-12-2015 to 15-12-2015.

2. Teaching activity
- **Formal responsibility of Bachelor's (Laurea) and Master of Science's (Laurea Magistrale) degree courses in Italian and/or foreign universities.**
- **Formal responsibility of PhD courses in Italian and/or foreign universities.**
- **Formal responsibility of Specializing Master's courses and Life Learning courses in Italian and/or foreign universities in PhD courses.**

• Teaching assignment. School of Specialization in Nuclear Medicine, Faculty of Medicine and Surgery, University of Milan-Bicocca. From 01-01-2003 to 01-01-2004.
• Teaching assignment. Residential Course for Health Technicians in Medical Radiology operating in Medicine: ECM event n. 482-148252, Positron Emission Tomography Center (PET), San Raffaele Hospital, Milan. From 22.11.2004 to 26.11.2004.
• Teaching assignment. Residential Course for Health Technicians in Medical Radiology operating in Medicine: ECM event n. 482-189483, Positron Emission Tomography Center (PET), San Raffaele Hospital, Milan. From 23-05-2005 to 27-05-2005.
• Teaching assignment. Residential Course for Health Technicians in Medical Radiology operating in Medicine: ECM event n. 482-211625, Positron Emission Tomography Center (PET), San Raffaele Hospital, Milan. From 28.11.2005 to 02-12-2005.
• Teaching assignment. Residential Course for Health Technicians in Medical Radiology operating in Medicine: ECM event n. 482-233246, Positron Emission Tomography Center (PET), San Raffaele Hospital, Milan. From 22-05-2006 to 26-05-2006.
• Teaching assignment. Residential Course for Health Technicians in Medical Radiology operating in Medicine: ECM event n. 482-258725, Positron Emission Tomography Center (PET), San Raffaele Hospital, Milan. From 20-11-2006 to 24-11-2006.
• Teaching assignment. Residential Course for Health Technicians in Medical Radiology operating in Medicine: ECM event n. 482-273172, Positron Emission Tomography Center (PET), San Raffaele Hospital, Milan. From 21-05-2007 to 25-05-2007.
• Teaching assignment. Residential Course for Health Technicians in Medical Radiology operating in Medicine: ECM event n. 482-292242, Italian Association of Nuclear Medicine and Molecular Imaging. From 19.11.2007 to 23.11.2007.
• Assignment of a Training Course Tutor. Course of "Training of highly qualified researchers and laboratory technicians in the study of new diagnostic technologies", Laboratory of Oncological Technologies HSR-Giglio Soc. Cons. a r r. L. From 01-12-2007 to 31-05-2010.
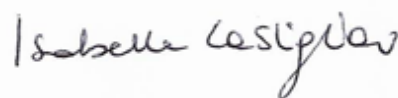
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• Teaching assignment. Residential Course for Health Technicians in Medical Radiology operating in Medicine: ECM event n. 71-8018460, High School of Physics in Medicine P. Caldirola. From 14-05-2008 to 16-05-2008

• Teaching assignment. Residential Course for Health Technicians in Medical Radiology operating in Medicine: ECM event n. 482-8007933, Italian Association of Nuclear Medicine and Molecularedal Imaging 19-05-2008 to 23-05-2008.

• Teaching assignment. Residential Course for Health Technicians in Medical Radiology operating in Medicine: ECM event n. 482-8029226, Italian Association of Nuclear Medicine and Molecular Imaging. From 24.11.2008 to 28.11.2008.

• Teaching assignment. Residential Course for Health Technicians in Medical Radiology operating in Medicine: ECM event n. 482-9009975, High School of Physics in Medicine P. Caldirola. From 25-05-2009 to 29-05-2009.

• Invitation class: "Instrumentation and Methodologies", Residential course. Centro San Raffaele Del Monte Tabor Foundation (duration: 10 hours). From 18-02-2010 to 27-05-2010.

• Teaching position (paid title). "Applications of Physics to Medicine" (24 hours - 3CFU), Degree in Physics, 2nd year Specialized Degree in Physics, University of Milan-Bicocca. From 06-04-2010 to 03-07-2010.

• Teaching position (paid title). "Applications of Physics to Medicine" (24 hours - 3CFU), Degree in Physics, 2nd year Specialized Degree in Physics, University of Milan-Bicocca. From 17-04-2011 to 15-07-2011.

• Teaching position (paid title). "Applications of Physics to Medicine" (24 hours - 3CFU), Degree in Physics, 2nd year Specialized Degree in Physics, University of Milan-Bicocca. From 20-03-2013 to 01-06-2013.

• Teaching position (paid title). "Applications of Physics to Medicine" (24 hours - 3CFU), Degree in Physics, 2nd year Specialized Degree in Physics, University of Milan-Bicocca. From 20-04-2014 to 12-06-2014.

• Teaching assignment (Free Title). "Applications of Physics to Medicine" (24 hours - 3 CFU), Degree in Physics, 2nd year Specialized Degree in Physics, University of Milan-Bicoccadal 09-04-2016 to today

Place and date

Milan, 8/05/2020
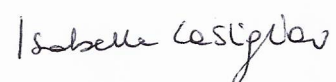
Signature

ISABELLA CASTIGLIONI

1.3 Significant publications

Section A

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Peer-reviewed scientific publications *in extenso* (N=78)
* = first, last or corresponding author (in 49 among 78 pubblicazioni, 63%)

1. Bazzacco D., Brandolini F., Burch R., Buscemi A., Cavedon C., De Acuna D., Lunari S., Menegazzo R., Pavan P., Rossi-Alvarez C., Sferruzza M., Zanon R., De Angelis G., Bezzon P., Cardona M.A., De Poli M., Maron G., Mazza M. L., Napoli D., Rico J., Spolaore P., Tang X.N., Vedovato G., Blasi N., **Castiglioni I.**, Falconi G., LoBianco G., Bizzati P.G., Wyss R. *Linking Transitions between the highly deformed states and the yrast states of normal deformation in 133Nd*. Phys Lett B, 1993; 309: 235-240.
    doi: 10.1016/0370-2693(93)90926-9

2. Paulesu E., Goldacre B., Scifo P., Cappa S.F., Gilardi M.C., **Castiglioni I.**, Perani D., Fazio F. *Functional heterogeneity of left inferior frontal cortex as revealed by fMRI*. NeuroReport, 1997; 8: 2011-16.

3. Varga J., Bettinardi V., Gilardi M.C., Riddell C., **Castiglioni I.**, Rizzo G., Fazio F. *Evaluation of pre- and post-reconstruction count-dependent Metz filters for brain PET studies*. Med Phys, 1997; 24(9): 1431-40.
    doi: 10.1118/1.598031

4. Bettinardi V., Pagani E., Gilardi M.C., Landoni C., Riddell C., Rizzo G., **Castiglioni I.**, Belluzzo D., Lucignani, G., Schubert S., Fazio F. *An automatic classification technique for attenuation correction in positron emission tomography*. Eur J Nucl Med, 1999; 26: 447-458.
    doi: 10.1007/s002590050410

5. **Castiglioni I.***, Cremonesi O., Gilardi M.C., Bettinardi V., Rizzo G., Savi A., Bellotti E., Fazio F. *Scatter correction techniques in 3D PET: a Monte Carlo evaluation*. IEEE Trans Nucl Sci, 1999; 46(6): 2053-58.
    doi: 10.1109/23.819282

6. Biella G., Sotgiu M.L., Pellegata G., Paulesu E., **Castiglioni I.**, Fazio F. *Acupuncture Produces Central Activations in Pain Regions*. Neuroimage, 2001; 14: 60-66.
    doi: 10.1006/nimg.2001.0798

7. Buvat I., **Castiglioni I.*** *Monte Carlo simulations in SPET e PET*. Q J Nucl Med, 2002; 46(1):48-61.

8. **Castiglioni I.***, Cremonesi O., Gilardi M.C., Savi A., Bettinardi V., Rizzo G., Bellotti E., Fazio F. *A Monte Carlo Model of Noise Components in 3-D PET*. IEEE Trans Nucl Sci, 2002; 49(5): 2297-2303.
    doi: 10.1109/TNS.2002.803686

9. Bettinardi V., Gilardi M.C., Lecchi M., Savi A., **Castiglioni I.**, Rizzo G., Fazio F. *Integrated CT/PET systems*. Nucl Phys B Proceedings Supplements, 2003; 125: 139-144.
    doi: 10.1016/j.nuclphysbps.2011.03.126

10. Rizzo G., Cattaneo G.M., Castellone P., **Castiglioni I.**, Ceresoli G.I., Messa C., Landoni C., Gilardi M.C., Arienti R., Cerutti S., Fazio F. *Multi-modal Medical Image Integration to Optimize Radioterapy Planning in Lung Cancer*. Ann Biomed Eng, 2004; 32(10): 1399-1408.
    doi: 10.1114/B:ABME.0000042227.37183.1c

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11. Bettinardi V., Danna M., Savi A., Lecchi M., **Castiglioni I.**, Gilardi M.C., Bammer H., Lucignani G., Fazio F. *Performance evaluation of the new whole-body PET/CT scanner: Discovery ST*. Eur J Nucl Med Mol Imaging, 2004; 31(6): 867-81.
doi: 10.1007/s00259-003-1444-2

12. Berti A., Bottini G., Gandola M., Pia L., Smania N., Stracciari A., **Castiglioni I.**, Vallar G., Paulesu E. Shared cortical *anatomy for motor awareness and motor control*. Science, 2005; 309:488-491.
doi: 10.1126/science.1110625

13. **Castiglioni I.***, Rizzo G., Gilardi M.C., Bettinardi V., Savi A., Fazio F. *Lesion Detectability and quantification in PET/CT oncological studies by Monte Carlo simulations*. IEEE Trans Nucl Sci, 2005; 52(1): 136-142.
doi: 10.1109/TNS.2005.844018

14. Rizzo G., **Castiglioni I.**, Arienti R., Cattaneo G.M., Landoni C., Artioli D., Gilardi M.C., Messa C., Reni M., Ceresoli G.E., Fazio F. *Automatic registration of PET and CT studies for clinical use in thoracic and abdominal conformal radiotherapy*. Q J Nucl Med Mol Imaging, 2005; 49(4): 368-72.

15. Buvat I., **Castiglioni I.***, Feuardent J., Gilardi M.C. *Unified description and validation of Monte Carlo simulators in PET*. Phys Med Biol, 2005; 50: 329-346.
doi: 10.1088/0031-9155/50/2/011

16. **Castiglioni I.***, Buvat I., Rizzo G., Gilardi M.C., Feuardant J., Fazio F. *A publicly accessible Monte Carlo database for validation purposes in emission tomography*. Eur J Nucl Med Mol Imaging, 2005: 32(10): 1234-1239.
doi: 10.1007/s00259-005-1832-x

17. Rizzo G., **Castiglioni I.**, Russo G., Gilardi M.C., Panzacchi A., and Fazio F. *Data rebinning and reconstruction in 3D PET/CT oncological studies: a Monte Carlo evaluation*. IEEE Trans Nucl Sci, 2006; 53(1): 139-146.
doi: 10.1109/TNS.2005.862960

18. Rizzo G., **Castiglioni I.**, Russo G., Tana M.G., Dell'Acqua F., Gilardi M.C., Fazio F., Cerutti S. *Using deconvolution to improve PET spatial resolution in OSEM iterative reconstruction*. Methods Inf Med, 2006;46(2):231-235.

19. Bagnasco S., Beltrame F., Canesi B., **Castiglioni I.**, Cerello P., Cheran S.C., Gilardi M.C., Lopez Torres E., Molinari E., Schenone A., Torterolo L. *Early diagnosis of Alzheimer's disease using a grid implementation of statistical parametric mapping analysis*. Stud Health Technol Inform, 2006;120:69-81.
ISBN: 978-1-58603-617-1

20. Bettinardi V., Mancosu P., Danna M., Giovacchini G., Landoni C., Picchio M., Gilardi M.C., Savi A., **Castiglioni I.**, Lecchi M., Fazio F. *Two-dimensional vs three-dimensional imaging in whole body oncologic PET/CT: a Discovery-STE phantom and patient study*. Q J Nucl Med Mol Imaging, 2007;51(3):214-223.

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21. Calandrino R., Del Maschio A., Cattaneo G.M., **Castiglioni I.*** *Imaging in radiotherapy*. Nuclear Instruments & Methods in Physics Research - Section A, Accelerators, Spectrometers, Detectors and Associated Equipment, 2009; 608(1), p. S11-S14.
doi: 10.1016/j.nima.2009.05.030

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Section B
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