Curriculum

Since 2001 he is the Head of a research group (Medical Imaging) at the Institute of Biomedical Engineering of the CNR in Rome.

Project Supervisor of: Technological Innovation and Integration in Medicine at the Department of Medicine - National Research Council.

Main research interests: development of innovative industrial prototypes and technological solutions. He is the author of 12 patents. He is author/co-author of more than 100 publications in international journals.

Industrial Research Projects (Head of R&D): Author of 12 patents (new methods for SPECT-PET imaging and radio-guided surgery). His main research activities are focused on the development and application of advanced detectors and simulation technologies into the field of diagnostic imaging in Nuclear Medicine. Further research interests deals with: - Advanced PET systems for Molecular Imaging (small animal imaging in preclinical studies); - New advanced Anular device for specific organs (breast, heart, prostate) - Past Chairman of Li-tech SpA (CNR spin off Company) and founder of Imagensys, innovative CNR start up (2017).

Curriculum vitae

• Graduated in Physics, 1981
• Positions: Researcher, 1990-2003
• Professor of Integrated Course, "Physiology, Biophysiscs and Food Science", University of Rome La Sapienza, 2000-2001
• Professor of Integrated Course, "Physics, Informatic and Medical Statistics", University of Rome La Sapienza, 2000-2001
• Professor of Integrated Course, "Physiology, Biophysiscs and Food Science", Bachelor of Science in Nursing, University of Rome La Sapienza, 2001-2002
• Professor of Integrated Course "Physics, Informatic and Medical Statistic", Bachelor of Science in Nursing, University of Rome La Sapienza, 2001-2010
• Professor of the Master Course of “Science and Technologies of the Radiopharmaceuticals” University of Rome La Sapienza, 2009-2018
• Senior Researcher at IBCN-CNR
• Project Supervisor: Technological Innovation and Integration in Medicine at Department of Medicine - National Research Council
• Head of the Research Unit of the ISIB- CNR branch of Rome, (Institute of Biomedical Engineering - National Research Council)
• Head of the Research Unit of the IBB- CNR branch of Rome, (Institute of Biostructure and Bioimaging - National Research Council -)
• Chairman of Li-tech SpA (CNR spin-off Company)
• Founder of Imagensys Srl (CNR innovative Start-up)

R&D Industrial Research

• Imaging probe
• Miniaturised scintigraphic devices
• Robotic surgery
• Multiple Gamma Camera for diagnostic use

• PET/SPECT Multifuncionality Devices
• SIMOD Projet (Domotic)
• Portable Gamma Camera
• Directional Gamma Probe

Patents

• CNR RM95A000481 date 13/7/1995 - EPC 96924120.7-2213 - USA Patent: US 6,021,341 of 2/2000 Title: "Surgical probe for laparoscopy or intracavitary tumour localization".
• Italian Patent: RM97A000233 del 23/04/1997 - EPC 11.05.1998 - US Patent Number: 6,242,744 B1 Jun. 5, 2001 Title: "Miniaturised gamma camera with very high spatial resolution".
• Italian patent CNR RM 97A000256 of 02/05/1997 - EPC submitted 11.05.1998 USA Patent number: US 6,232,605 B1 del 15/05/2001 Title: "Flat scintillation gamma camera, with very high spatial resolution, with modular structure".
• Italian patent CNR RM2001A000279 date: 23/05/2001 European Patent n. 98919465.9 del 22/04/1998 USA Patent number: US 6,232,605 B1 del 15/05/2001 Title: "High spatial resolution scintigraphic device having collimator with integrated crystals".
• Italian patent CNR RM2001A000280 date: 23/05/2001 Europ. Patent : 1 262796 A1 n. 01830560.7 del 30.08.2001 USA Patent :n. 09/927,347 del 11/28/2002 Title: "Modular high spatial resolution scintigraphic device with multiple independent photomultipliers and extensible visualisation area".
• Italian patent CNR RM2004A000271 date 31/05/2004 "Scintigraphic device with variable resolution" US patent 7,274,022 25 Sept. 2007
• US patent CNR RM2008A000169 del 03/28/2008 "Method for scintillation structure" US 7,929,396 B2 19/04/2011
• US patent MI 2008 A1798 del 10/10/2008 “Scintigraphic device with super spatial resolution” US 7,939,807 B2 10/05/2011
• US patent RM 2009A00066 -12/18/2009 “Scintigraphic device with very high resolution” PCT/IT2010/04 G01T1/164 26.11.2010
• (CNR patent “Diagnostic device for morpho-functional exam” Italian Patent RM2011A000543 13 October 2011)
• Portable Gamma Camera - EP2909654B1 US9408583B2 (2015)

Research Projects

• Project: "ONCOLOGIA"
• Project: "Morpho-functional diagnostics in oncology" - Scientific Coordinator of the Operative Unit of Rome: Alessandro Soluri - Title: "Integration of morpho-functional images for breast biopsy".
• Strategic Project "Robotics in Surgery" CNR (2000)
• Project AIRC "In vivo detection of CXCR4 and CCR7 in breast cancer by using radiolabelled legance"
• Italian "spin-off" Project (D.L. 29/799 e D.M. n.593 8/8/2000) Title "Miniaturised scintigraphic devices"(2003-2007)
• Project : Modular device for scintipraphic application (2011)
• Vertical PET Project (2011)

Activities

• R&D (2011) : New Project for methodological studies
• Partnerships : University of Rome "La Sapienza" Department of Electronic Engineering, University of Zurich, Politecnico Milan, WHT- spin off Company (Biomedical Campus of Rome).
• Starting of a NewCo for innovative Multi-functionality (PET-SPECT) device.
• Starting of SIMOD Project (industrial prototype), partnership with 3 Italian Companies for

development novel control systems on domestic environment (domotics: Technological solutions (new patent) for creating greater independence in the domestic environment).
• SPECT and PET technologies (industrial application) and Innovative gamma probes for surgical localization (lymph-nodes or tumors radio-guided surgery)
• R&D 2011-12 :- Studies for Large Area of detection (PSPMT and SiPM).
• New patented methods for advanced Multi-functionality (PET-SPECT) technologies (new patent) with innovative solutions. Modular devices (new patent) for large FOV (Field Of View) area. New methods for to increase the intrinsic spatial resolution. Development of new prototypes with PSPMT (Position Sensitive Photo Multiplier) and SiPM (Silicon Photo Multiplier) components. High performances and optimization of the results for innovative applications on Nuclear Medicine.
•Scientific Cooperation Agreement between the Institute of Biostructures and Bioimaging - National Research Council of Rome and the Peking University College of Engineering trough the Department of Biomedical Engineering (BME), about the development of new for applications on preclinical imaging technologies. The agreement provided the opportunity to develop and improve a Quad-modality Molecular Imaging System for Small Animal Imaging (PET / SPECT / CT/ Fluorescence device) (2016-2017)