

## Belloi Sara



**Education:** 2001, Master degree in Industrial Biotechnology at Milano - Bicocca University  
2007, PhD in Biomedical Technologies at Milano - Bicocca University

**Courses:** June 2019. Cardio-Neuro-Vascular Workshop: "Imaging techniques in preclinical and translational research", Bruker and Fuji Visualsonic in Pozzilli (IS), Italy.

May 2019. Training for the use of gamma-counter by Perkin-Elmer Srl at University of Milano - Bicocca (Monza), Italy.

April 2019. Training course for the use of a PET/CT system for small animals by Molecubes, at Nuclear Medicine - San Raffaele Hospital (Milan), Italy.

February 2019. Course for the use of a dose calibrator by ELSE Srl, at Nuclear Medicine - San Raffaele Hospital (Milan), Italy.

April 2018. Course for the use of an Optical Imaging system for small animals by Perkin Elmer, at University of Milan-Bicocca (Monza), Italy.

November 2017. Preclinical imaging workshop: "Imaging techniques in preclinical, clinical and translational research", organized by Bruker and Fuji Visualsonic in Milan, Italy.

May 2013. NSAS Advanced Course "Neural Stem Cells in Development and for Brain Repair" in Cortona (AR), Italy. Methods for the production of human stem cells and their use in the treatment of different degenerative diseases.

June 2006. DiMI training "Animal models for the study of neurological diseases: histological, molecular and biochemical hallmarks" at the Hospital Clinic of Barcelona, Spain. Preparation of animal models of neurodegenerative diseases in mouse and rat. Cognitive tests and molecular imaging techniques for the evaluation and monitoring of neuronal pathology.

January 2003. Training course on animal experimentation at the San Raffaele IRCCS (Milan) by the committee for the use and care of laboratory animals (IACUC). Handling and care of small laboratory animals: experimental plan design, evaluation of the statistical significance and of the animal's wellbeing.

**Position:** from 2020 to today, Researcher, permanent position.  
Responsible for the Laboratory of Molecular Imaging for small animals.

- Professional skills
- Experience in the use of laboratory equipment such as HPLC Gilson, spectrophotometer, cryostat, dose calibrator, gamma-counter; use instruments for surgery (stereotaxic apparatus for neurosurgery) and for in vivo (YAP- (S) PET, Ise Srl and X- and  $\beta$ -Cube<sup>®</sup>, Molecubes) and ex vivo (PhosphorImager<sup>®</sup>, Perkin Elmer) animal imaging.
  - Experience in the handling and care of small laboratory animals (mice and rats) and in the culturing of both animal- and human-derived cancer cells. In vitro toxicity and cellular uptake tests. Small surgery for the implantation of cells and for preparing animal models of cancer and neurodegeneration.
- Digital skills
- Good knowledge of the main IT packages: Word, Excel, PowerPoint, GraphPad Prism, EndNote;
  - Good ability in the use of specific software for the images analysis derived from PET and MRI: ImageJ, MRIcro, PMOD, MIPAV;
  - Good skills in Internet browsing for bibliographic research (PubMed).

Administrative activities	<ul style="list-style-type: none"> <li>▪ IBFM-CNR Instructor Point for purchases on the MePA/Consign, preparing tenders under the EU threshold.</li> <li>▪ Director of contract execution in procurement procedures, above and below the EU threshold, for high-tech scientific laboratory equipment.</li> </ul>
Academic activities	<ul style="list-style-type: none"> <li>▪ Co-tutors of undergraduate in the internship period for the degree thesis (University of Milano and University of Milano - Bicocca);</li> <li>▪ Reviewer activity for scientific journals (Cancer Chemotherapy and Pharmacology, International Journal of Molecular Sciences);</li> <li>▪ Reviewer activity for the European Molecular Imaging Meeting (EMIM).</li> </ul>
Funding	<ul style="list-style-type: none"> <li>▪ National and international grants for funding requests.</li> <li>- ESFRI RoadMap: SysBioNet research infrastructure for Cancer Systems Biology. Director: Prof. Lilia Alberghina, University of Milan-Bicocca. IBFM-CNR Scientific Referent: Prof. Gilardi Maria Carla; Head of Unit: Prof. Moresco Rosa Maria IBFM-CNR.</li> <li>- ESFRI RoadMap: EuroBioimaging research infrastructure for Bioimaging. Director: Prof. Lilia Alberghina, University of Milano - Bicocca. IBFM-CNR Scientific Referent: Prof. Gilardi Maria Carla; Head of Unit: Prof. Moresco Rosa Maria IBFM-CNR. (Facility No. 45: "Laboratory of Tracer Development and Radiopharmacology").</li> <li>- MIUR Funding "Pre-clinical PET Laboratory". IBFM-CNR Scientific Referent: Prof. Gilardi Maria Carla; Head of Unit: Prof. Moresco Rosa Maria IBFM-CNR.</li> <li>- MIUR Funding "Lamed" (Radionuclide Laboratory for Medicine). Project leader: INFN-LNL of Legnaro; IBFM-CNR referent: Prof. Maria Carla Gilardi; scientific referent for UNIMIB: dr. Sergio Todde.</li> <li>- European Project FP7-HEALTH-2012-INNOVATION-1: Development of an integrated SPECT/MRI system for enhanced stratification of brain cancer patients prior to patient-specific radio-chemo therapy and early assessment of efficacy treatment. Acronym: INSERT (INtegrated SPECT/MRI for Enhanced Stratification in Radio-chemo Therapy). Coordinator: Prof. Carlo Fiorini, Milan Polytechnic. Participant units: Vita Salute San Raffaele University, responsible Prof. Andrea Falini; PET Imaging Unit, responsible Prof. Moresco Rosa Maria.</li> </ul>

	<ul style="list-style-type: none"> <li>- Flag Project of MIUR, NANOMAX: "Functionalized nanoparticles in the detection and treatment of mammary adenocarcinoma: PET/SPET imaging and complementary transcriptomic and proteomic approach". Scientific Coordinator: Prof. Moresco Rosa Maria, (IBFM-CNR), in collaboration with ITB-CNR.</li> <li>- Lombardy Region Project: "AMANDA: Metabolic alterations, cellular stress and neurodegenerative processes". Head of research: Prof. Rosa Maria Moresco, IBFM-CNR. III Framework Agreement LOMBARDIA REGION and CNR, Operating Agreement, signed on December 14, 2016, registered on January 10, 2017 at no. 19364 / RCC.</li> <li>- Finalized MIUR Research (RF-2013-02355326) with the title: Rab39b mouse models: pre-clinical studies using AMPA receptors as therapeutic targets to unravel the role of RAB39B in Intellectual Disability and Autism Spectrum Disorder. Project coordinator: Dr. D'Adamo Patrizia, responsible for the PET Imaging Unit: Prof. Moresco Rosa Maria.</li> <li>- PRIN Project Year 2016-2019 (PRIN 2016-NAZ 0113) carried out in collaboration with the University of Milan, funded by MIUR (Project leader: Prof. Elena Cattaneo; Head of Unit Milano - Bicocca: Prof. Rosa Maria Moresco) for the study of Huntington's disease.</li> <li>- PRIN Project Year 2019-2021 (PRIN 2017-LYTE9M) carried out in collaboration with the University of Cagliari, funded by MIUR (Project manager: Prof. Micaela Morelli; Head of IBFM-CNR Unit: Dr. Belloli Sara) for the study of Parkinson's disease.</li> </ul>
Recent publications	<ol style="list-style-type: none"> <li>1. D'Adamo, P., Horvat, A., Gurgone, A., ... Belloli, S., ... Vardjan, N., Zorec, R. Inhibiting glycolysis rescues memory impairment in an intellectual disability Gdi1-null mouse. <i>Metabolism: Clinical and Experimental</i>, 2021, 116, 154463.</li> <li>2. Rainone, P., De Palma, A., Sudati, F., ... Prosperi, D., Belloli, S. 99mTc-radiolabeled silica nanocarriers for targeted detection and treatment of HER2-positive breast cancer. <i>International Journal of Nanomedicine</i>, 2021, 16, pp. 1943–1960.</li> <li>3. Valtorta, S., Salvatore, D., Rainone, P., Belloli, S., Bertoli, G., Moresco, R.M. Molecular and cellular complexity of glioma. Focus on tumour microenvironment and the use of molecular and imaging biomarkers to overcome treatment resistance. <i>International Journal of Molecular Sciences</i>, 2020, 21(16), pp. 1–44, 5631.</li> <li>4. Belloli, S., Morari, M., Murtaj, V., ...Moresco, R.M., Gilardi, M.C. Translation Imaging in Parkinson's Disease: Focus on Neuroinflammation. <i>Frontiers in Aging Neuroscience</i>, 2020, 12, 152</li> <li>5. Besusso, D., Schellino, R., Boido, M., Belloli, S., ... Buffo, A., Cattaneo, E. Stem Cell-Derived Human Striatal Progenitors Innervate Striatal Targets and Alleviate Sensorimotor Deficit in a Rat Model of Huntington Disease. <i>Stem Cell Reports</i>, 2020, 14(5), pp. 876–891</li> <li>6. Musazzi, L., Sala, N., Tornese, P., Gallivanone, F., Belloli, S., ... Moresco, R.M., Popoli, M. Acute Inescapable Stress Rapidly Increases Synaptic Energy Metabolism in Prefrontal Cortex and Alters Working Memory Performance. <i>Cerebral Cortex</i>, 2019, 29(12), pp. 4948–4957.</li> <li>7. Murtaj, V., Belloli, S., Di Grigoli, G., ... Panina-Bordignon, P., Moresco, R.M. Age and Sex Influence the Neuro-inflammatory Response to a Peripheral Acute LPS Challenge. <i>Frontiers in Aging Neuroscience</i>, 2019, 11, 299.</li> <li>8. Carpinelli, A., Rainone, P., Belloli, S., ... Anzini, M., Moresco, R.M. Radiosynthesis and preclinical evaluation of 11C-VA426, a cyclooxygenase-2 selective ligand. <i>Contrast Media and Molecular Imaging</i>, 2019, 2019, 5823261.</li> <li>9. Turolla, E.A., Valtorta, S., Bresciani, E., ... Belloli, S., ... Moresco, R.M., Todde, S. Study of the tissue distribution of TLQP-21 in mice using [18F]JMV5763, a radiolabeled Analog prepared via [18F]aluminum fluoride chelation chemistry. <i>Frontiers in Pharmacology</i>, 2018, 9(NOV), 1274.</li> </ol>

10. Raccagni I, Belloli S, Valtorta S, Stefano A, Presotto L, Pascali C, Bogni A, Tortoreto M, Zaffaroni N, Daidone MG, Russo G, Bombardieri E, Moresco RM. [18F]FDG and [18F]FLT PET for the evaluation of response to neo-adjuvant chemotherapy in a model of triple negative breast cancer. *PLoS One*. 2018 May 23;13(5):e0197754. doi: 10.1371/journal.pone.0197754.
11. Belloli S, Pannese M, Buonsanti C, Maiorino C, Di Grigoli G, Carpinelli A, Monterisi C, Moresco RM, Panina-Bordignon P. Early upregulation of 18-kDa translocator protein in response to acute neurodegenerative damage in TREM2-deficient mice. *Neurobiol Aging*. 2017 May;53:159-168.
12. Rainone P, Riva B, Belloli S, Sudati F, Ripamonti M, Verderio P, Colombo M, Colzani B, Gilardi MC, Moresco RM, Prosperi D. Development of 99mTc-radiolabeled nanosilica for targeted detection of HER2-positive breast cancer. *Int J Nanomedicine*. 2017 May 2;12:3447-3461.
13. Faedo A, Laporta A, Segnali A, Galimberti M, Besusso D, Cesana E, Belloli S, Moresco RM, Tropiano M, Fucà E, Wild S, Bosio A, Vercelli AE, Biella G, Cattaneo E. Differentiation of human telencephalic progenitor cells into MSNs by inducible expression of Gsx2 and Ebf1. *Proc Natl Acad Sci U S A*. 2017 Feb 14;114(7):E1234-E1242.
14. Belloli S, Zanotti L, Murtaj V, Mazzon C, Di Grigoli G, Monterisi C, Masiello V, Iaccarino L, Cappelli A, Poliani PL, Politi LS, Moresco RM. 18F-VC701-PET and MRI in the in vivo neuroinflammation assessment of a mouse model of multiple sclerosis. *J Neuroinflammation*. 2018 Feb 5;15(1):33.
15. Di Grigoli G, Monterisi C, Belloli S, Masiello V, Politi LS, Valenti S, Paolino M, Anzini M, Matarrese M, Cappelli A, Moresco RM. Radiosynthesis and Preliminary Biological Evaluation of [18F]VC701, a Radioligand for Translocator Protein. *Mol Imaging*. 2015;14.