

Belloli Sara

Position

Researcher at Institute of Bioimaging and Physiology (IBFM), National Research Council (CNR)

Education:

2001 Master degree in Industrial Biotechnology at Milano - Bicocca University

2007 PhD in Biomedical Technologies at Milano - Bicocca University

Assignments and Roles:

Responsible for the "Laboratory of molecular imaging for small animals" as the Italian Multi-sited Multi-Modal Molecular Imaging (MMMI) node of "Euro-BioImaging" Research Infrastructure.

Co-tutors of undergraduate in the internship period for the degree thesis (University of Milano and University of Milano - Bicocca).

Research experience:

2008 today: IBFM-CNR, Segrate (MI)

2007-2008: Medicine and Surgery Department, University of Milano - Bicocca, Monza (MB)

2002-2006: IRCCS San Raffaele, Nuclear Medicine and PET Cyclotron Centre, Milan

Scientific Interests:

- Molecular imaging techniques of small animals, in particular Positron Emission Tomography (PET), Single Photon Computed Emission Tomography (SPECT) e Computed Tomography (CT).
- Preclinical animal models of tumor, neurodegeneration and inflammation. Neurosurgery and cell transplantation.
- Evaluation of pharmacological treatments or nanoparticles, antibodies and peptides-based treatments.
- Ex vivo (autoradiography) and in vitro (tissue sampling and cellular uptake) nuclear medicine techniques.
- Bioluminescence and fluorescence in vivo imaging.
- Cell culturing and in vitro assays.

Main Research Project involvement:

- ESFRI RoadMap: SysBioNet research infrastructure for Cancer Systems Biology. Director: Prof. ██████████ University of Milan-Bicocca. IBFM-CNR Scientific Referent: Prof. Gilardi Maria Carla; Head of Unit: Prof. ██████████ Maria IBFM-CNR.
- ESFRI RoadMap: EuroBioimaging research infrastructure for Bioimaging. Director: Prof. ██████████, University of Milano - Bicocca. IBFM-CNR Scientific Referent: Prof. Gilardi Maria Carla; Head of Unit: Prof. ██████████ Maria IBFM-CNR. (Facility No. 45: "Laboratory of Tracer Development and Radiopharmacology").
- MIUR Funding "Pre-clinical PET Laboratory". IBFM-CNR Scientific Referent: Prof. ██████████; Head of Unit: Prof. ██████████ IBFM-CNR.
- MIUR Funding "Lamed" (Radionuclide Laboratory for Medicine). Project leader: INFN-LNL of Legnaro; IBFM-CNR referent: Prof. ██████████; scientific referent for UNIMIB: dr. ██████████
- 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. ██████████, Milan Polytechnic. Participant units: Vita Salute San Raffaele University, responsible Prof. ██████████; PET Imaging Unit, responsible Prof. ██████████.
- 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.
- Lombardy Region Project: "AMANDA: Metabolic alterations, cellular stress and neurodegenerative processes". Head of research: Prof. ██████████, 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.

- 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. [REDACTED], responsible for the PET Imaging Unit: Prof. [REDACTED].
- PRIN Project Year 2016-2019 (PRIN 2016-NAZ 0113) carried out in collaboration with the University of Milan, funded by MIUR (Project leader: Prof.ssa [REDACTED]; Head of Unit Milano - Bicocca: Prof. [REDACTED] for the study of Huntington's disease.
- 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. S [REDACTED] for the study of Parkinson's disease.

Editorial activities:

Reviewer activity for scientific journals:

- Cancer Chemotherapy and Pharmacology
- International Journal of Molecular Sciences
- Cancers

Member of IJMS Reviewer board since 2021

Reviewer activity for EMIM2021

Reviewer activity for ANR (Agence Nationale de la Recherche) France

Scientific collaborations:

Active collaboration with several national institutions, as Universities, CNR Institutes, Hospitals, and international institutions. Between them:

- Department of Medicine and Surgery, University of Milan - Bicocca, Monza, Italy
- Nuclear Medicine Unit, San Raffaele Hospital, Milan, Italy
- Laboratory of Stem Cell Biology and Pharmacology of Neurodegenerative Diseases, University of Milan
- Neuroscience Institute Cavalieri Ottolenghi (NICO), University of Turin, Italy
- Neurovascular Research Laboratory of VHIR, Barcelona, Spain

Indexes on Scopus Database (at today's date):

H-index: 14

Citations: 480

Documents: 43

Recent publications:

1. Moriggi M., Belloli S., ... Moresco R.M., Capitanio D. Skeletal Muscle Proteomic Profile Revealed Gender-Related Metabolic Responses in a Diet-Induced Obesity Animal Model. *Int J Mol Sci.* 2021 May; 22(9): 4680. doi: 10.3390/ijms22094680
2. 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 *Metabolism: Clinical and Experimental*, 2021, 116, 154463.
3. 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. *International Journal of Nanomedicine*, 2021, 16, pp. 1943–1960
4. 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. *International Journal of Molecular Sciences*, 2020, 21(16), pp. 1–44, 5631
5. Belloli, S., Morari, M., Murtaj, V., ...Moresco, R.M., Gilardi, M.C. Translation Imaging in Parkinson's Disease: Focus on Neuroinflammation. *Frontiers in Aging Neuroscience*, 2020, 12, 152
6. 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. *Stem Cell Reports*, 2020, 14(5), pp. 876–891
7. 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. *Cerebral Cortex*, 2019, 29(12), pp. 4948–4957
8. Murtaf, 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. *Frontiers in Aging Neuroscience*, 2019, 11, 299
 9. Carpinelli, A., Rainone, P., Belloli, S., ...Anzini, M., Moresco, R.M.
Radiosynthesis and preclinical evaluation of ¹¹C-VA426, a cyclooxygenase-2 selective ligand. *Contrast Media and Molecular Imaging*, 2019, 2019, 5823261
 10. 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. *Frontiers in Pharmacology*, 2018, 9(NOV), 1274
 11. 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.
 12. Belloli S, Zanotti L, Murtaf 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.
 13. 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.
 14. Rainone P, Riva B, Belloli S, Sudati F, Ripamonti M, Verderio P, Colombo M, Colzani B, Gilardi MC, Moresco RM, Prospero D.
Development of ^{99m}Tc-radiolabeled nanosilica for targeted detection of HER2-positive breast cancer. *Int J Nanomedicine*. 2017 May 2;12:3447-3461.
 15. 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.

