Monica Piras

Education:

- **2004**: Bachelor's Degree in Biological Sciences, University of Cagliari.
- **2008**: PhD in Morphological Sciences, University of Cagliari. Thesis titled "Secretory protein distribution in Diabetic human salivary glands."
- **2023**: Achieved National Scientific Qualification as Associate Professor (II level) for the Scientific Discipline BIO/16 – Human Anatomy, Competitive Sector 05/H1.

Stages:

- Funded stage by the Banco di Sardegna Foundation aimed at acquiring and learning in situ hybridization techniques at the laboratory directed by Prof. C. Bagni at the Santa Lucia Foundation, Tor Vergata (Rome) (2006).
- Stage to deepen Scanning and Transmission Electron Microscopy techniques at the Electron Microscopy Laboratory directed by Prof. Arthur Hand at the University of Connecticut (UCONN), USA (2007).

Research Training:

- Morfofunctional study of salivary secretion in diabetic patients at the Electron Microscopy and Immunocytochemistry Laboratories, Department of Cytomorphology, University of Cagliari (UniCA).
- Study of optical and electron microscopy regarding the morphology of lipid nanoparticles and fluid formulations for the delivery of therapeutic proteins. In collaboration with the Department of Pharmaceutical Chemical Technology, University of Cagliari, at the Electron Microscopy and Immunocytochemistry Laboratory, Department of Cytomorphology, University of Cagliari (UniCA).
- Molecular biologist collaborator at the Molecular Biology Laboratory, microbiological diagnostics on human tissues using Pyrosequencer.
- Active collaboration in performing molecular tests, pyrosequencing, and real-time PCR regarding the characteristic mutation of alpha-1 antitrypsin in Sardinia.
- Performing the molecular test for sentinel lymph nodes in breast cancer (OSNA – One Step Nucleic Acid Amplification).
- Performing molecular tests concerning the most frequent mutations of K-RAS, N-RAS, B-RAF in colon cancer, using Sanger sequencing, pyrosequencing, and real-time PCR techniques.
- Research activities involving in vitro cultures of human breast milk stem cell lines, DNA and RNA extraction from cell cultures, DNA amplification by PCR, and immunohistochemistry in cytological preparations.

Research Activities:

The research activities are documented by:

- **54 full-text articles published in international journals with impact factor.**

Awards:

- Winner of the "Prof. Franco Chiappe Prize" at the 11th International Workshop: M. Piras, P. Coni, G. Pichiri, M. Puddu, A. De Magistris, D. Lanzano, M. Isola. "Ultrastructural Study of Fresh Human Breast Milk Cells". October 27, 2015 – October 31, 2015.

Patent:

- **2020**: Submission and approval of Italian Patent IT n. 102020000022066 titled "Derivative of Cogaic acid as a selective mitosis inhibitor in colon-rectum tumor cells and glioblastoma" in the name of UNICA.