

Giulia Fiorentino - Research activity

The research activity focuses on the study of the organization and functions of the mammalian ovary, mainly through the reconstruction of a digital three-dimensional model of the gonad describing the morpho-functional changes that occur from birth to aging (4D digital twin of the ovary). The objective is to understand what are the spatial dynamics and the 3D structural and functional relationships underlying the correct growth of single follicles and the maturation of developmentally competent oocytes. The 4D digital twin of the ovary will integrate results obtained with morphological (tomography, histology) and molecular (immunohistochemistry, immunofluorescence, proteomics and single cell transcriptomics) analyses and will represent a platform for the study of tissue and functional alterations of this organ during aging and in pathological conditions (for example, in the Polycystic ovary syndrome, one of the major causes of female infertility).

Collaborators: Bellazzi R., Nicora G., Università degli Studi di Pavia; Parrilli A., Center for X-ray Analytics, Empa; Magni F., Smith A., Università di Milano Bicocca; Cimadomo D., Rienzi L., Ubaldi F.M., Vaiarelli A., Generalife; Coticchio G., 9.baby Family and Fertility Center.