My name is Berina Šabanović, I am PhD student in Biomedical sciences of XXXIV cycle (2018/2021) in the laboratory of Applied biology, under the supervision of Dott. Francesco Piva. My project is "**Pancreatic ductal adenocarcinoma (PDAC) and intercellular signals: from a prognostic approach to a treatment strategy",** and it is financed by Fondazione Cariverona.

The majority of PDAC patients present with an advanced disease and, even when resectable, most patients will develop shortly a metastatic disease. Therefore, a challenge is the identification of patients benefiting from surgery. The accepted paradigm of tumour progression via blood dissemination of tumour cells has been frequently insufficient to explain many findings related to cancer progression and metastasis development. Experimental and clinical data suggest that metastases might also occur via transfer of plasma circulating oncogenes or inhibitors of tumour suppressor genes from the primary tumour to susceptible cells located in distant organs. This was referred as genometastasis hypothesis as alternative to the classical seed and soil theory of metastasis. Vesicles released by cancer cells promote the activation of survival and mitogenic signalling pathways, allowing them to acquire cancer cell characteristics. From a clinical perspective, the identified plasmatic mediators could be useful tools in defining better treatment strategies for resectable PDAC, avoiding useless and ineffective surgical and/or radiotherapeutic approaches. The analyses could also lead to develop an individualized targeted approach for PDAC treatment. However, up until now there are no available data regarding genometasis in PDAC pathology.

My aim is to identify which molecules, contained in exosomes (a subtype of extracellular vesicles), lead to the transformation, and to reveal their correlation with the development of metastases in PDAC. To do so, I am using techniques, such as cell culture, co-culture assays, RT-qPCR, Western blotting, soft-agar assay, and exosome isolation employing various approaches.