

Curriculum vitae

I am Giulia Bicchieraro, a Biologist and currently a PhD student in the Lab of Prof. Roberta Spaccapelo. I achieved my bachelor degree in Biological Science in 2019 followed by a Master degree in Biology in 2021 with 110/110 cum laude and special mention. In 2021 I started my PhD in Systems Biology in Immune and Infectious Diseases.

Laboratory expertise

Since my graduation in Biological Science, I am working in laboratory ranging from clinical diagnosis to research activities through the application of biochemistry techniques as protein quantification, cytological and histological techniques, such as blood smear analysis, preparation of cytological and histological samples by fixation, dehydration, paraffin embedding and staining and molecular biology such as ELISA and SDS-PAGE. During my master's degree I deepened my knowledge about microbiology working on the detection of bacteria causing waterborne diseases, in particular *Legionella* species, starting from sampling to sample concentration by filtration and its analysis using both cultural and molecular methods. I performed nucleic acid extraction techniques, PCR, RT-qPCR, vPCR and Sanger Sequencing of genes specific for bacterial identification such as *16S* ribosomal RNA gene. During my doctorate I had the opportunity to work on the application of Next-Generation Sequencing in microbiology, and I am principally working on the monitoring of SARS-CoV-2 genomic evolution, from which the data are shared to the main Global Influenza Database (GISAID) and Istituto Superiore di Sanità (ISS). I applied different nucleic acid extraction methods both manual and automated, from patients' samples, bacterial or fungal cells, library synthesis and DNA sequencing. I analysed the data using common databases such as ntBLAST, or software that are specific for NGS raw data and CLI bioinformatic pipeline as QIIME2, specific for metagenomic analysis.