

## The Italian network of culture collections: new cutting-edge technologies, new fields of research, new challenges to face

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The JRU MIRRI-IT ([www.mirri-it.it](http://www.mirri-it.it)) is the Italian network of microbial culture collections which currently includes 24 partners operating in various sectors (clinical, food, environmental, agricultural, cultural heritage, etc.). The network includes collections of viruses, microalgae, bacteria and fungi distributed throughout the national territory; 8 of its partners work under a certification and accreditation scheme. Thanks to the funding of the PNRR project SUS-MIRRI-IT, the Italian network wants to focus on the new opportunities that microbiology poses to the civil society to face challenges such as improving human well-being and food quality, facing the climate change and environmental pollution.

From the last 6 months (and for the next two years) the JRU has focused its interest on some activities under the umbrella of those carried out by MIRRI-ERIC:

- development of Standard Operation Procedures (SOPs) for sampling, characterization, conservation and processing of microbiomes in several sectors i.e. fermented foods, clinical samples, soil, plants, insect;
- development of a national network of laboratories to implement the use of MALDI-TOF as a gold standard for the rapid identification of microorganisms in other fields of application besides the clinic;
- set up of a national plan for whole genome sequencing (WGS) of microorganisms;
- creation of a national database of microbial resources according to FAIR criteria;
- creation of new pipelines for microbiomes' description and genomes' annotation.

In addition, experts of JRU MIRRI-IT are engaged in the activity of Ministerial technical boards to raise awareness of national Policy on the conservation, protection, and enhancement of microbial resources biodiversity. A brief overview on the preliminary results obtained by the JRU, and an excursus on the different foreseen activities and potentiality of the network will be discussed and presented.