**Development of a digital platform for supporting botanical research in Italy**

**Rationale**: National research in plant taxonomy, plant ecology and plant geography, is producing a wealth of biodiversity data. While part of these data is available online, sometimes also in the form of searchable online aggregators, we are still far from an ideal situation, in which fragmentation of the resources is absent, or limited, and digitization of existing data is (almost) complete. Italy still lacks of a common infrastructure for data aggregation and management, which could also provide web services to researchers.

Thanks to the PON project LifeWatch Plus, the University of Bologna is becoming the botanic digital biodiversity center in the country. However, this center must be populated with data, resources, and services, in order to become useful to the scientific community.

**Objective**: development of a strategy for the aggregation of existing digital resources for botany in Italy, and their logical integration in the digital biodiversity center of the University of Bologna. Development of a portal to provide access to data, resources, and web services. Re-use of existing data standards, and protocols, to manage and aggregate biodiversity data in the domains in which standards and protocols have already been developed, and development of new standards and protocols for other cases. Analysis of the major gaps in botanical knowledge, and development of novel strategies for the production of data in order to fill these gaps.

**Work plan**: the researcher in charge of the work will work in the field of biodiversity informatics, developing the digital infrastructure, and, when necessary, standards, protocols, and novel strategies.

The project is based on a three year perspective, and the work plan is explained below:

* Survey of the resources which could be aggregated in the digital biodiversity center of the University of Bologna; analysis of the requirements for their migration in the center; analysis of the possible aggregation among different resources, and standards and protocols which could be adopted; first analysis of gaps in data and resources; development of a portal for the access to the resources and data of the digital biodiversity center of the University of Bologna.
* Gap analysis and theoretical development of novel approaches for increase botanic data available in the digital domain; design of digital tools and web services which could allow a solution for filling the gaps: aggregation of new resources and data.
* Development of web services for feeding data in the major national and international aggregators, such as the National Biodiversity Network and the GBIF; integration in the platform of tools for citizen science, and protocol for data verification and validation; development of ontologies for the botanical domain.