

## **Platform GenoSol: a New Tool for Conserving and Exploring Soil Microbial Diversity**

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Format: poster.

Soils are the principal reservoirs of microbial diversity and represent a core component of terrestrial ecosystems. There is an increasing demand for assessing the impact of agricultural and industrial practices on the environment at large scales in a context of global change. To address this demand taxonomic and functional diversity of soil microbial communities, and their stability over time, need to be characterized to better predict soil quality. Recent methodological progresses have led to the development and automation of molecular biological tools (based on the extraction and characterization of nucleic acids), which now allow their application to large scale samplings making possible the production of a reliable reference system for the characterization and interpretation of the soil microbial diversity.

In this context, the Platform « GenoSol » was created in 2008 by the Research Unit of INRA (National Institute for Agronomic Research) « Microbiology of the Soil and Environment » in Dijon (France). The aim of this platform is to provide an appropriate logistic structure for the acquisition, storage, and characterization of soil genetic resources obtained by extensive sampling (several hundred to several thousand soils), on very large space and/or time scales (national soil survey, long term experimental site ...), and to make these resources readily available for the whole scientific community and policy makers. The ultimate goal is to produce a reliable reference system based on molecular characterization (taxonomic and functional features) of the soil microbial communities that provides scientific interpretations of the analyses from large scales of time and space sampling. The platform also aims at building up and storing for long term periods a library of soil genetic resources that is made available to national and international scientific communities.

The aim of this poster is to present the technical and logistical tools, the conservatory of soil biodiversity and the scientific objectives as well as the mode of functioning and current research programmes developed in the GenoSol platform ([http://www.dijon.inra.fr/plateforme\\_genosol](http://www.dijon.inra.fr/plateforme_genosol)).