

Abstract of Presentation

Note: This paper should be typed in “Times New Roman” of 12pt.

Mentaberry, Alejandro

Application of metagenomic approaches to soil management and microbial gene prospection in Argentine soils.

Abstract :

Application of metagenomic approaches to different environmental systems is gaining momentum and will have a tremendous impact in our understanding of the microbiological world. Soil metagenomics is a rapid developing field that will have a important impact on the sustainability of agricultural practices and on gene discovery for biotechnological purposes.

As part of a research associative project, a comparative study on soil samples from four different regions of central Argentina is been carried out with the goal of developing a relational database associating metagenomic data from soil microorganisms (bacteria and fungi) with physical, chemical, edafic, climatic and productivity data. In the long term, generation of metagenomic data will allow a better understanding on the composition and dynamics of soil consortia in agricultural and non-agricultural soils, thus contributing to soil management practices and soil bioremediation. In the short term, the information obtained will be used to generate a gene catalogue for applications in different industrial branches (food, paper, leather, textile, biofuel and pharma) and crop improvement (genes for biotic and abiotic stress tolerance).

This project is being developed by ten research groups involved in different fields of soil biology and biotechnology that are affiliated to the University of Buenos Aires, the National University of La Plata, the National University of Quilmes and the Institute of Agrobiotechnology of Rosario. The project is supported by the National Agency for Promotion of Science and Technology as part of a national program to develop research strategic areas.