DeepOmics

DeepOmics, development of a data warehouse for meta-omics data in the field of environmental biotechnologies

Summary

In order to better capitalize on meta-omics data from environmental biotechnology processes, we coordinate in INRAE the development of a data warehouse, DeepOmics (Digital Environmental Engineering Platform for OMICS data). This latter will enable to store and cross query environmental biotechnology data including: design and operating parameters, physico-chemical data from the process monitoring, and finally the meta-omics data characterizing the microbial communities involved in such processes.

This data warehouse aims at favoring the production of FAIR data and the development of operational tools based on meta-omics data, such as diagnosis biomarkers for environmental biotechnologies.

Anaerobic digestion and activated sludge have been selected as first process types to establish the proof-of-concept of the data warehouse. Similarly, gene amplicon sequencing (16S rRNA gene typically) has been considered to start with. The scope of DeepOmics should subsequently be broadened to bioelectrochemical processes and to shotgun metagenomics data.

Access to this tool will be extended progressively, in particular through scientific collaborations.

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au Service de l'Environnement

Project's web site

DeepOmics is currently a test web server, accessible only to INRAE members :
deepomics.test.irstea.fr

Scientific and technical partners

> **SolApp**

DSI – Solutions applicatives
INRAE – Centre Provence-Alpes-Côte d'Azur, Lyon

> **LBE**

Laboratory of Environmental Biotechnology
INRAE – Centre Occitanie-Montpellier, Narbonne

> **OPAALE**

Process optimisation in food, agriculture and the environment
INRAE – Centre Bretagne-Normandie, Rennes

Lbe

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Scientific and technical partners	
> **Migale Bioinformatics Facility – MaIAGE**	
Applied Mathematics and Informatics from Genome to the Environment INRAE – Centre Île de France Jouy-en-Josas – Antony	migale
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