

SEMINAR

Friday, September 21st 2018

10:00 – 11:00

Auditorium 1 (entrance 24)

Faculty of Veterinary Medicine, Ghent University

'Analysis of metabolomics data in the context of metabolic networks using MetExplore web server'



Dr. Fabien Jourdan

French National Institute for Agricultural Research | INRA

Toulouse Cedex, France

Host: Prof. Dr. Lynn Vanhaecke, Department of Veterinary Public Health and Food Safety

Abstract

Metabolism of an organism is composed of hundreds to thousands of interconnected biochemical reactions responding to environmental or genetic constraints. This metabolic network provides a rich knowledge to contextualise omics data and to elaborate hypothesis on metabolic modulations. Nevertheless, performing this kind of integrative analysis is challenging for end users with limited computer skills since it requires the use of various tools and web servers.

MetExplore offers an all-in-one online solution composed of interactive tools for metabolic network curation, network exploration and omics data analysis. In particular, it is possible to curate and annotate metabolic networks in a collaborative environment. The network exploration is also facilitated in MetExplore by a system of interactive tables connected to a powerful network visualisation module. Finally, the contextualisation of metabolic elements in the network and the calculation of over-representation statistics make it possible to interpret any kind of omics data. MetExplore is a sustainable project maintained since 2010 and freely available at: <https://metexplore.toulouse.inra.fr/metexplore2/>.

Biography Fabien Jourdan (INRA DR, Senior Research Scientist)

Fabien Jourdan is a research scientist at INRA (the French National Institute for Agricultural Research). He is developing bioinformatics methods to study genome-scale metabolic networks aiming at, based on experimental data like metabolomics ones, retrieving parts of the organism metabolism affected by genetic or environmental perturbations. Fabien Jourdan is leading the development of MetExplore web server, which is used by more than 400 users and developed by a group of 10 computational biologists. Fabien Jourdan is member of the board of the French National infrastructure for metabolomics and fluxomics, MetaboHub. Since 2015, he is president of the French-speaking Metabolomics and Fluxomics Network (RFMF).