

Dipartimento di Biotecnologie e Bioscienze Università Milano-Bicocca P.zza della Scienza 2, 20126 Milano



Dip. di Biotecnologie e Bioscienze

## Giovedì 19 Gennaio 2023

ORE 15.00 AULA U3-08

## **Prof. Jens Nielsen**

Department of Biology and Biological Engineering, Chalmers University of Technology, Gothenburg, Sweden *and* BioInnovation Institute, Ole Maaløes Vej 3, DK2200 Copenhagen N, Denmarl

## **Systems Biology of Yeast Metabolism**

Metabolic Engineering relies on a thorough understanding of how the many different metabolic reactions in the cell to be engineered interacts. Genome-scale metabolic models offers a very strong tool for performing quantitative analysis of how the many different reactions in the metabolic network interacts, and through the addition of kinetic and proteome constraints to these models their predictive strength has significantly improved. However, these models can also be used for integrative analysis of quantitative data, e.g. proteomics and metabolomics data. In the lecture there will be presented progress on how kinetic and proteome constraints can improve the predictive strength of genome-scale metabolic models for use in metabolic engineering. Examples will be given of both identification of novel metabolic engineering designs and of using these models for gaining novel insight into the functioning of metabolism.

## Host: Prof. Danilo Porro

