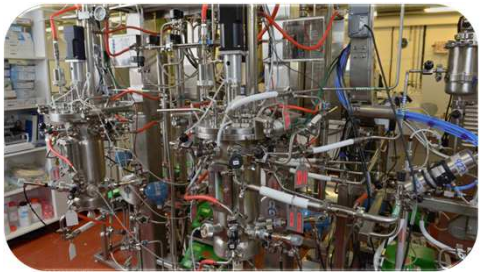
LISBP
Ingénierie des Systèmes Biologiques et des Procédés

Theme 1

Systemic Optimization of « Bioprocess / Microorganism »

Scientific Objective:

Surpassing the first step of molecule production (usually reachable in batch mode) and **reaching the best titres, productivities and yields** via the management of the cellular activity **essential for its robustness.**



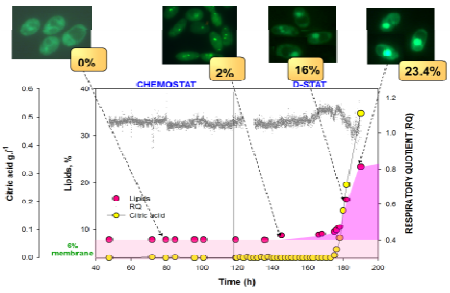
OSCAR ***bi-stage bioreactor with membrane recycling***

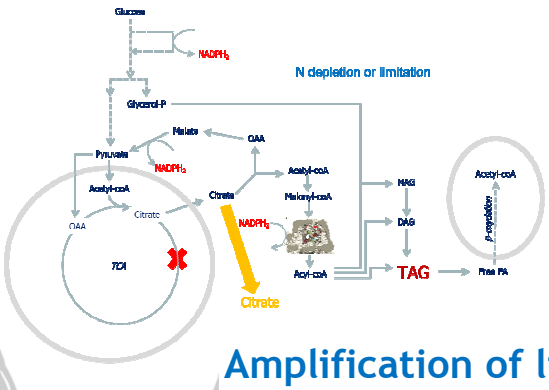
HDMB **Bioextrusion-fermentation bioreactor**

is*PC²B** ***in situ **Physico-Chemical Characterization Bioreactor**

Highlights: Oleaginous yeasts *(12 papers, 3 patents)*

Kinetic analysis of metabolic shifts at macroscopic, transcriptomic *(Cescut et al. 2011)* and proteomic levels *(Ochoa et al., 2014)*





Amplification of lipids accumulation *(Patent11-59361)*

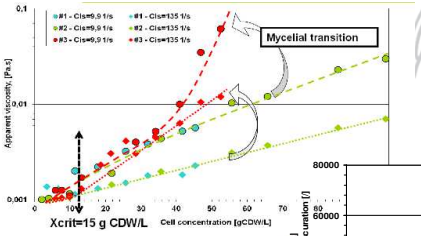
150 $kg_{dcw}.m^{-3}$

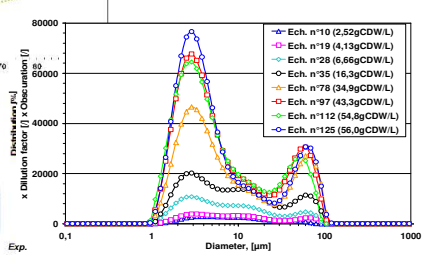
0.44 – 0.75 $g_{lipid}/g_{biomass}$

0.31 $kg.m^{-3}.h^{-1}$

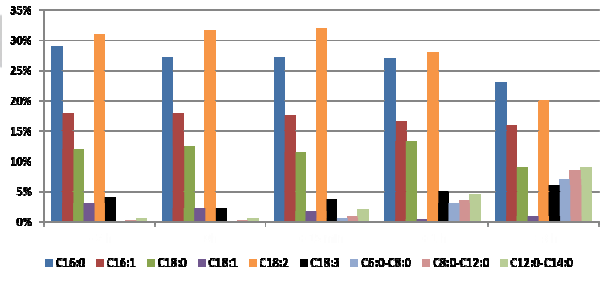
Cell morphology & Rheology

(Manon et al., 2011, Timoumi et al., 2016, 2017)





Modulation of carbon chain length *(Patent submitted)*



(coll. Micalis, LISBP EAD1)