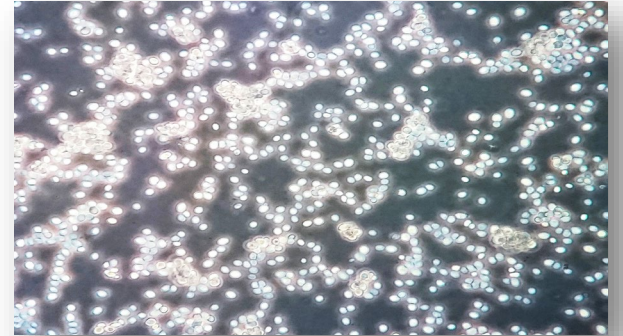


## **John Morrissey**

SUSFERM Fermentation Science Centre,  
University College Cork, Ireland.



# **A modular yeast platform for production of aromatics in a dairy biorefinery**

The transition to a sustainable bio-based economy will rely on engineered microbes producing value-added products in biorefinery settings. In a flexible biorefinery, it should be possible to adapt inputs and strains to manufacture different products as required. We are developing the food yeast *Kluyveromyces marxianus* for production of aromatics that may be useful as natural flavours, fragrances or dyes. This yeast was chosen because its intrinsic robustness and broad substrate range make it an attractive host for production from feedstocks derived from food or industrial processes. For use in a dairy biorefinery, the native capacity to assimilate lactose is a key advantage. We established a synthetic biology toolkit based on CRISPR engineering and the YTK Golden Gate standard that enables rapid construction of engineered strains. We then produced a set of chassis strains that channelled flux towards different aromatic amino acids...



**Thursday**  
**10 July, 2025**



**U3-BIOS building**  
**room U3-07**



**4.30 pm**  
**to 5.30 pm**

**Host:**  
**Paola Branduardi**

