



## BIOTECHNOLOGIES

### INTRODUCTION TO FERMENTATION – SESSION IN ENGLISH

#### OBJECTIFS

Introduce the fundamentals of microbial growth as a basis for understanding industrial fermentation technologies.  
Provide hands-on training in conducting fermentation processes at the laboratory scale..  
Participants should have prior knowledge of aseptic practices and a sufficient mathematical background (including logarithmic functions).

#### CONTENU PÉDAGOGIQUE

##### / THEORY

###### Biological material

- › Microbial strains: bacteria, yeasts, molds
- › Nutrition and growth

###### Operation of fermenters

###### Kinetics

- › Biomass production
- › Metabolite production
- › Substrate consumption
- ›

###### Production curves and calculations

- › Analysis of production curves
- › Calculation of representative culture parameters
- › Yield and productivity calculations

###### Industrial applications of fermentation

###### Industrial fermenters and maintenance

##### / PRACTICAL WORK

- › Operation of laboratory fermenters
- › Monitoring a culture in a fermenter: biomass and/or metabolite production
- › Use of biological material: bacteria and/or yeast
- › Physico-chemical monitoring: pH, temperature, oxygen...
- › Microbiological monitoring: biomass estimation
- › Biochemical monitoring: substrate/metabolite follow-up
- › Case studies of common process malfunctions

#### Coordonnées

CPE Lyon Formation Continue

41 rue Garibaldi – 69006 LYON

04.72.32.50.60



#### DURÉE

4.5 days – 32 hours



#### SESSIONS

NOUS CONSULTER



#### FRAIS D'INSCRIPTION (DÉJEUNER INCLUS)

€ 2,375 (excluding VAT)



#### PRÉREQUIS & PUBLIC CONCERNÉ

Technicians or any professionals wishing to learn about the implementation and operation of fermentation processes.