

Introduction to Upstream Bioprocessing

Course Lead:

Shiwen Zhuang - Senior Fermentation Scientist – at FlexBio

Overview:

The course is aimed at early career professionals and anyone who wants to develop an understanding of upstream biomanufacturing.

The 1-day course consists of 2 lectures, enhanced with practical demo's using a stainless-steel pilot bioreactor, wave bag single use system and 2L parallel glass bioreactor systems. The course will be hosted by Industrial Biotechnology Innovation Centre (IBioIC) and the trainees will be presented a Certificate of 'Introduction to Upstream Processing' at the completion of the training issued by IBioIC.

Date, Location and Cost:

Thursday 22nd March at FlexBio (Heriot-Watt University, Edinburgh)

£600+VAT per attendee (academic rate available)

Learning outcomes:

- Obtain an up-date overview of microbial and mammalian cell cultivation in the field of biomanufacturing
- Be aware of the importance of preparation, sterilisation, monitoring and quality control of fermentation process
- Develop hands-on fermentation skills through practical experience of stainless-steel pilot bioreactor, wave bag single use system and 2L parallel glass bioreactor systems
- Be aware of the cell culture handling techniques, from seed train, inoculation, sampling to harvest and disinfection.

Who will benefit:

- Operatives, scientists, engineers, graduates, suppliers, managers, especially those that are in their early career or new to the fermentation field
- Anyone who would like to gain an understanding of theoretical knowledge and practice insight applied in biomanufacturing

Please contact neil.renault@ibioic.com for further details and sign-up

Course schedule:

Day 1	
AM	<p><u>Lecture 1:</u> Overview of upstream processing (Ian Archer, Technical Director of IBioIC)</p> <p><u>Lecture 2:</u> Introduction to fermentation practices and challenges (Shiwen Zhuang, Senior Fermentation Scientist of IBioIC)</p> <p><u>Practical 1:</u> Introduction to 2L parallel glass bioreactor using Eppendorf DASGIP 4x2L system (Vessel assembly, sterilisation preparation, seed train, sampling and harvest)</p>
PM	<p><u>Practical 2:</u> Introduction to stainless steel pilot bioreactor and Steam-In-Place (SIP) demonstration using Applikon 30L SIP system (Vessel assembly, sterilisation preparation, seed train, sampling and harvest)</p> <p><u>Practical 3:</u> Introduction to Wave bag bioreactor using Applikon Appliflex system (Vessel assembly, sterilisation preparation, seed train, sampling and harvest)</p>