IPI Academy

MANAGEMENT forum



Presented by
Management Forum

Upstream and Downstream Manufacturing in the Biopharmaceutical Industry

In this talk, explore the fundamental concepts, techniques, and processes that make up the backbone of biomanufacturing, pharmaceutical production, and biotechnology.

Format:
Bespoke training

CPD:
1.5 hours for your records (depending on your requirements)

Certificate of completion

Overview

Bioprocessing is the use of biological systems (such as cells, enzymes, or microorganisms) to produce valuable products, like pharmaceuticals, biofuels, or specialty chemicals. This process is typically broken down into two main stages: upstream processing and downstream processing. Both play vital roles in ensuring the efficient production, purification, and quality control of the final product.

Upstream processing encompasses everything that occurs before the actual production of the product, and it's primarily concerned with creating an optimal environment for microorganisms or cell cultures to grow and produce the target product.

Once the biological system has generated the product in upstream processing, the focus shifts to downstream processing, which involves purification and formulation to ensure the product is safe, pure, and suitable for commercial use.

Upstream and downstream processes are interconnected. The choice of cell culture methods, fermentation conditions, and media formulation can significantly affect the yield and purity of the product, which in turn impacts the complexity and cost of downstream processing.

Benefits of attending

Attending this session will not only deepen your knowledge but also equip you with the practical tools and strategies needed to enhance both upstream and downstream manufacturing processes, improve product quality, and navigate the complexities of the biopharmaceutical industry. The benefits of attending this session include:

- **Learn** about the latest industry trends, technologies, and strategies being employed to improve upstream and downstream processes. This can help you adopt cutting-edge practices to enhance operational efficiency and reduce production costs
- **Understand** key challenges and innovative solutions related to process optimisation, scale-up, and product consistency across both upstream and downstream stages. Knowledge in this area can help reduce bottlenecks and improve yield
- **See** best practices in maintaining product quality, with a focus on techniques like process validation, quality assurance, and regulatory compliance to ensure the safety and effectiveness of biologics
- **Engage** with experts, researchers, and other professionals in the biopharmaceutical field
- **Gain** insights into the regulatory requirements for both upstream and downstream biopharmaceutical manufacturing processes. This can help ensure compliance with FDA, EMA, and other regulatory bodies, minimising the risk of delays or regulatory hurdles
- **Explore** the latest technological advancements in biomanufacturing, such as automation, artificial intelligence, and continuous manufacturing processes, and how these can be integrated into both upstream and downstream operations to improve efficiency and scalability
- **Discuss** the factors that contribute to cost reduction in the production process, such as the selection of cost-effective raw materials, automation, and process optimisation techniques. This knowledge can help drive profitability without compromising product quality
- **Delve** into upstream and downstream processes and see how they fit into the larger context of the product life cycle, from discovery through clinical trials to commercial production

Who should attend?

- Bioprocess engineers
- Process development scientists
- Quality Assurance (QA) and Quality Control (QC) professionals
- Manufacturing supervisors and operators
- Regulatory affairs managers
- R&D (Research and Development) team members
- Project managers in biotechnology/pharmaceuticals
- Supply chain and logistics teams
- Senior leadership (e.g., CTOs, VPs of Operations)
- External consultants and contractors
- Finance and costing analysts
- Students and trainees in biotechnology and pharmaceutical sciences
- Environmental Health and Safety (EHS) personnel
- Automation and IT specialists

Run this programme in-house for your whole team

Coming to IPI Academy for your in-house training provides an all-inclusive service which gives you access to a wide variety of content, learning platforms and delivery mechanisms as well as your own personal training adviser who will work with you from the initial enquiry through to feedback and follow-up after the programme.

With over 600 trainers, all practitioners and experts across a huge range of fields, we can provide the training you need, where you need it, when you need it, and at a price which suits your budget. Our approach to tailored learning and development consists of designing and delivering the appropriate solution for each client.

For your FREE consultation and to find out more about how we can work with you to solve your training needs, please contact our training advisers:



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IPI Academy

IPI Academy is a training initiative of Falconbury and Management Forum; leading providers of industry training for over 30 years, based in the UK.

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