



## INTRODUCTION

The purpose of this training course is to provide Non-Biotechnologists with the basic theory to understand principles, techniques and the potentials of Biotechnology.

Biotechnology combines disciplines such as Molecular Biology, Biochemistry, Chemistry, Microbiology, Chemical Engineering and Computing. This rapidly advancing science offers new and exciting opportunities to mankind, especially in the fight against disease.

## WHO SHOULD ATTEND

This training course will be of interest to Non-Biotechnologists and personnel new to working with biotechnology products and anyone requiring an overview of the requirements, development and regulation of Biotechnology products. It will be particularly useful to personnel in:

- Quality Control and Quality Assurance
- Registration and Regulatory Affairs
- Legal and Patents
- Finance
- Accounts and Investment
- Anyone who needs to gain a broad understanding of Biotechnology
- Information Technology
- Engineering
- Sales and Marketing
- Health and Safety
- Risk Management

## RECENT ATTENDEES

- Qualified Person
- Business Development Manager
- Process and Biosafety Consultant
- Risk Management Officer
- Operations Director
- Finance Director
- Global QA Manager
- Patent Attorney
- Head of Patents and Trademarks
- Head Development and Strategic Planning
- Outsourcing Quality Executive
- Financial Controller
- IP Manager
- Process Engineer
- Pharmacist
- Director Regulatory Affairs
- Regulatory Project Manager
- Senior Materials Manager
- Training Manager
- Director CMC
- Scientific Administrator

## CHAIRMAN

**Dr Adekunle Onadipe** Associate Research Fellow, Bioprocess R&D Cell Line Development, Pfizer Inc., USA

## SPEAKERS

**Dr Mark Richardson** Pharmaceutical & Biotech Regulatory Affairs Consultant, UK

**Dr Jon Smith** Director, Adjoint R&D Projects, sanofi pasteur, France

**Kate Smith** Head of Manufacturing, BioReliance, UK

**Alison Sykes** Stability and Bioanalytics Manager, Analytical Development, Lonza Biologics plc, UK

**Dr Philip Webber** Frank B. Dehn & Co., Patent and Trade Mark Attorneys, London, UK

**Dr Robert Young** Principle Group Leader, Cell Culture Process Development, Lonza Biologics plc., UK

## REGISTER NOW

Reserve your place and register now:

To register for this course:

www.management-forum.co.uk

Tel: + 44 (0) 1483 730071

Fax: + 44 (0) 1483 730008

Any questions email: ellen.walker@management-forum.co.uk

A Certificate of Attendance for Professional Development will be given to each participant who completes the course.

## Day One

23 September 2009

- 09.00 ▶ **Introduction to Biotechnology**
- Historical perspective
  - Diversity of biotechnology products
  - Impact on society
  - Product development overview
- ▶ **Introduction to Molecular Biology**
- DNA, RNA, genes, plasmids and vectors
  - Protein synthesis - transcription and translation
- ▶ **Re-Expression of Proteins**
- Recombinant DNA techniques
  - Monoclonal antibodies - from mouse to human
  - Transgenic animals and plants
- ▶ **Development of Production Organisms**
- Transfection
  - Selection
  - Preservation
- ▶ **Fermentation Technology and Large Scale Production**
- Types of fermenters
  - Fermentation basics
  - Modes of operation
  - Process development
- 17.00 ▶ **General Discussion and Delegate Participation**
- 17.00- 18.00 **Drinks Reception in the Hotel for Delegates and Speakers**

## Day Two

24 September 2009

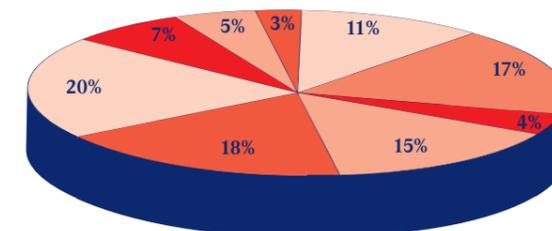
- 08.30 ▶ **Process Optimisation and Scale-Up**
- Scale-up strategies
  - Strain improvement
  - Media improvement
  - Process improvement
- ▶ **Analysis of Biopharmaceuticals**
- Biology activity
  - Physicochemical characterisation
  - Purity, impurities and contaminants
- ▶ **Product Recovery and Purification**
- Cell harvesting and removal
  - Clarification - intracellular and extracellular proteins
  - Chromatographic techniques
- ▶ **Formulation Design of Biopharmaceuticals**
- Factors affecting degradation
  - Choice of excipients
  - Prolonging shelf life
- ▶ **Process Economics**
- Drug development and bioprocess economics
  - Optimising bioprocess economics
  - Manufacturing make or buy
  - Future manufacturing alternatives
- ▶ **General Discussion and Delegate Participation**
- 17.00 ▶ **End of Day Two**

A selection of Companies that have attended this event in the past:

AVECIA LIMITED  
BUSINESS MONITOR INTERNATIONAL  
CARDINAL HEALTH  
CENTRE FOR ENTERPRISE & INNOVATION  
D. YOUNG & CO.  
EMEA  
F. Hoffman-La Roche Ltd  
IDIS LTD  
JANSSEN PHARMACEUTICA NV

KINESIS PHARMA BV  
KPMG  
LEO PHARMAA/S  
MERIAL SAS  
PFIZER GLOBAL R&D  
ROCHE PRODUCTS LTD  
Shire Pharmaceuticals Dev Ltd  
TEFEN EUROPE  
WYETH PHARMACEUTICALS

Regulatory Affairs	20%
QC/QA	18%
Production	17%
Project Management	15%
Management &	
Administration	11%
Business Development	7%
R&D	5%
Patents	4%
Others	3%



## Day Three

25 September 2009

- 08.30 ▶ **Patenting of Biotech Inventions**
- What is a patent
  - What are basic criteria for patentability
  - What can be patented
  - Can you patent genes, proteins, hybridomas, stem cells
- ▶ **Patent Workshop**
- How to recognise what is patentable
  - Drafting claims to biotech inventions
  - Maximising protection for an invention
  - Understanding the examination process
  - Enforcing patents
- ▶ **Regulatory Considerations**
- Genetic characterisation
  - Testing for adventitious agents
  - Process validation
  - Raw material testing
  - Cell bank testing
- ▶ **Regulatory Applications and Consequences, Comparability and Equivalence**
- Consequences of Manufacturing Process Change
  - Assessment of Process Change
  - Comparability or Equivalence
  - Comparability Strategy
  - Biotech Generics
- ▶ **Advances in Regulation: Biosimilars**
- ▶ **Current and Future Developments**
- Medicine
  - Ethics and biotechnology
- ▶ **General Discussion and Delegate Participation**
- 16.30 ▶ **End of Seminar**