Quality by Design in API Manufacturing
How to connect critical quality attributes with critical process parameters

SPEAKERS:

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HIGHLIGHTS:

- Key elements and general framework of QbD for APIs
- A risk-based approach to developing a control strategy
- How to identify and control Critical Quality Attributes in API synthesis
- Dossier requirements regarding information on the API manufacturing process
- Process Evaluation and Design Space
- Application of PAT in the API manufacturing
- Different types/elements of a control strategy

This education course is recognised for the ECA GMP Certification Programme „Certified Pharmaceutical Development Manager“. Please find details at www.gmp-certification.eu
Objectives

During this course the principles and key aspects of Quality by Design will be discussed. You will learn:

- How to identify Critical Quality Attributes
- How to design an effective risk based control strategy
- How to provide QbD related information in a regulatory submission
- How Process Analytical Technology can be applied as part of a control strategy

In an interactive workshop provides the opportunity to elaborate criticality analyses for various API syntheses.

Background

In many cases the synthesis of small molecule APIs is achieved by using multiple intermediates which themselves are produced using different processes. To ensure the API manufacturing process consistently delivers an API meeting its specifications each of these processes needs to be robust.

The Quality by Design approach aims to scientifically determine product and process characteristics derived from criteria set after analysis of the intended drug application.

These product characteristics, the so called critical quality attributes (CQAs), must be identified and in the next step the critical process parameters (CPPs) have to be determined.

Suitable approaches to identify these parameters are design of experiments (DOE) or general risk assessments e.g. FMEA. When linked to each other the CQAs and CPPs define the range within the process is considered to be robust.

This has to be demonstrated by a compilation of the relevant information in the application dossier.

Target Audience

This course is designed for all persons which are involved in the manufacture of APIs especially in process development, process validation, scale-up and transfer and CMC dossier preparation. Furthermore, the seminar will be of interest to personnel from quality assurance, regulatory affairs both from API and pharmaceutical companies and to contract manufacturers.

Programme

General framework and key elements of QbD for APIs - background and potential strategies
- What is it all about?
- What are the benefits?
- When and how should you use it?
- Practical examples with typical points of discussion

How to identify and control Critical Quality Attributes (CQAs) in API synthesis – a risk-based approach to developing a control strategy
- Severity assessment of quality attributes
- Impact levels for critical process parameters (CPPs) and critical material attributes (CMAs)
- Considerations for the API Starting material
- Design of an effective risk-based control strategy
- Examples

How to provide information on the development of the API manufacturing process – dossier requirements
- What should be done at which stage?
- Which information is relevant for the dossier?
- What are the key-points to be considered for APIs (NCE/Biotech) and their formulations
- Typical questions from Authorities

Process Evaluation and Design Space
- Changing Validation Approach
- Validation Life Cycle
- Design Space Concept

Application of PAT in the API industry
- PAT at development stages of a QbD-based development
- PAT as part of the Control Strategy in a GMP environment
- Practical examples of PAT implementations at a commercial scale in a GMP environment

Control strategies – Case studies and examples
- HA definitions
- Why and When is a control strategy needed
- Different types/elements of a control strategy
- Practical examples
**Workshop**

**Identification and classification of CQAs in API synthesis**

In this workshop delegates will elaborate criticality analyses of different APIs. As part of this analyses critical quality attributes and critical process steps within the synthesis of the APIs will be identified.

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**Social Event**

In the evening of the first course day, you are cordially invited to a dinner. This is an excellent opportunity to share your experiences with colleagues from other companies in a relaxed atmosphere.

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**Heidelberg – Optimal Accessibility via Frankfurt**

TLS:  
http://www.tls-heidelberg.de

Lufthansa Bus:  

PMJ:  
http://www.pmj-fahrservice.de

Train:  
You can get on the train directly at the airport. Trains leave up to two times per hour and it takes less than one hour to get to Heidelberg.  
http://www.bahn.de

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**Speakers**

*Dr Lígia Brás*  
*Hovione FarmaCiência SA, Portugal*  
Lígia Brás, PhD, is a PAT specialist in the Operational Excellence group at Hovione (Loures, Portugal), a company with more than 50 years’ experience in API development and compliance manufacture. She received both her degree in Biological Engineering and her PhD in Biotechnology from the Technical University of Lisbon, Portugal. She started working in chemometrics and PAT applications in academia in 2003. Currently, Lígia has been supporting Hovione teams on analytical technologies and statistical tools implementation to achieve manufacturing processes’ efficiency targets and improve operational knowledge.

*Dr Hiltrud Horn*  
*Horn Pharmaceutical Consulting, Germany*  
Dr Hiltrud Horn is managing director of HORN PHARMACEUTICAL CONSULTING with focus on CMC, GMP and Regulatory Affairs (EU and US). She started in pharma industry in 1990 and held several managerial positions within Hoffmann-La Roche in Basel and Knoll (now Abbott) in Ludwigshafen with global responsibility within QC / QA / Regulatory Affairs / Project Management / Medical Writing. She was consultant for the biotech and life science industry at Cap Gemini Ernst & Young prior to starting her own business more than 13 years ago. She is pharmacist with a Ph.D. and holds a Diploma in Pharmaceutical Medicine (Basel). Furthermore, she is specialised pharmacist for pharmaceutical analytics and for drug information.

*Francois Vandeweyer*  
*Janssen Pharmaceutica, Belgium*  
Francois Vandeweyer joined Janssen Pharamaceutica (part of Johnson & Johnson) in 1981 in chemical development. Until 1995 increasing responsibilities within the organisation mainly in the Quality Control Unit. Starting from 1995 he joined the QA department. Several Senior Manager responsibilities. 2005 Sr Manager GMP Compliance Chemical Operations Belgium (sites Geel – Olen – Beerse). 2009 Director Global Compliance EMEA/AP for Johnson & Johnson.

*Elmar Wenzel*  
*Freelance Consultant, Germany*  
Mr Wenzel was formerly head of API production at the Plankstadt site of AstraZeneca, now Corden Pharma. He is now freelance consultant.
| Date | Wednesday, 11 October 2017, 14.00 h – 18.00 h (Registration and coffee 13.30 h – 14.00 h)  
Thursday, 12 October 2017, 9.00 h – 15.15 h |
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| Venue | Heidelberg Marriott Hotel  
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e-mail info.heidelberg@marriott.com |
| Fees | ECA Members € 1,490  
APIC Members € 1,590  
Non-ECA Members € 1,690  
EU GMP Inspectorates € 845  
The conference fee is payable in advance after receipt of invoice and includes conference documentation, business lunch and dinner on the first day, lunch on the second day and all refreshments. VAT is reclaimable.  
Would you like to save money?  
If you book „Quality by Design in API manufacturing“ AND „Quality by Design in Drug Product Development“ simultaneously, the fee for EACH conference reduces as follows:  
ECA Members € 1,290  
APIC Members € 1,390  
Non-ECA Members € 1,490  
EU GMP Inspectorates € 745 |
| Accommodation | CONCEPT HEIDELBERG has reserved a limited number of rooms in the conference hotel. You will receive a room reservation form when you have registered for the course.  
Reservation should be made directly with the hotel. Early reservation is recommended. |
| Registration | Via the attached reservation form, by e-mail or by fax message. Or you register online at www.gmp-compliance.org. |
| Conference Language | The official conference language will be English. |
| Organisation and Contact | ECA has entrusted Concept Heidelberg with the organisation of this event.  
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