



## Speakers



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# Validation of Analytical Test Procedures & Measurement Uncertainty



Live Online Training on 19 – 21 October 2021



*Qualification and Validation in an uncertain analytical world –  
a holistic approach*

## Highlights

- Analytical Instrument Qualification
- Measurement Uncertainty and its impact on analytical methods validation
- Practical Determination of Validation Characteristics
- Regulatory requirements
- Statistical Aspects of Analytical Methods Validation
- Documentation of Analytical Validation
- Error budgets and reportable values
- Transfer of Analytical Test Procedures
- Analytical procedure life cycle management

With 4 Workshops!

## Objective

The objectives of this Live Online Training Course are

- to offer practical solutions for determining the validation characteristics
- to learn how to deal with measurement uncertainty and to understand its impact on analytical methods validation
- to understand the qualification of laboratory equipment as a precondition of reliable analytical testing
- to discuss the scope of qualification & validation necessary to obtain approval by the Registration Authorities (EMA, FDA, MHRA, etc.)
- to become familiar with the statistical parameters to be applied
- to outline the documentation (SOPs, Validation Protocols and Reports, etc.) which you should have in your lab.
- to provide an outline of the new USP & ICH developments of procedure validation

In order to improve the understanding and practical application of the contents of the lectures, workshops will be part of the training course.

## Background

The current ICH guideline Q2(R1) lists all characteristics to be considered during validation and describes the method of determining the various validation characteristics. Reliable analytical results do not only require validated test procedures but also the use of analytical equipment qualified for its intended purpose. In order to obtain regulatory approval, the qualification of all critical laboratory equipment must be performed and documented ensuring “fitness for purpose”. Furthermore, measurement uncertainty is of key importance in analytical instruments qualification as well as in analytical methods validation and transfer. Therefore it is absolutely essential that measurement uncertainty is well understood by everybody who is responsible for generating and evaluating analytical results in GMP controlled laboratories. In addition there are major revisions planned for both ICH Q2 and a new Q14 on Analytical Procedure Development.

## Target Audience

This Live Online Training Course will be of particular interest to Laboratory Managers, Supervisors and Analysts in pharmaceutical quality control departments who have responsibility for the validation of analytical test procedures. Furthermore, this Course is designed for personnel from Quality Assurance, Regulatory Affairs and Contract Laboratories.

## Moderators

Dr Christopher Burgess  
Dr Markus Funk

## Programme

### Welcome and Introduction

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### Validation in Context

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- Practical components of data quality
- Assessment of data quality
- Analytical Procedure Lifecycle Management; the future direction
- Course road map

### Basics of Measurement Uncertainty

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- Why is measurement uncertainty important?
- Relationship between uncertainty and confidence
- Uncertainty of measurement
- What is a measurand
- Error sources in analysis and testing

### Analytical Instrument Qualification

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- USP <1058> Guidance
- USP revision process and GAMP
- Validation Master Plan
- Definition of DQ, IQ, OQ and PQ
- Examples of protocols and documents
- Change Control
- Risk assessment

### Measurement Uncertainty in Calibration and Qualification of Analytical Instruments

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- Qualification, Calibration & Validation
- Measurement uncertainty
- Propagation of Errors
- Measurement uncertainty of a CRM
- Detection and quantitation limits
- Noise & drift
- Statistical aspects

### Analytical Procedure Lifecycle Management; the Future Direction

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- Validation; the changing regulatory climate
- FDA Process Validation Paradigm shift
- Analytical Procedure Lifecycle Management
- Data governance in a regulated laboratory
- ICH Q12
- USP <1220>
- ECA APLM guideline

## Statistical Aspects of Analytical Methods Validation

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- The use (and misuse?) of statistics to support validation data
- Basic theory of the common statistical techniques
- Merits, pitfalls and underlying assumptions of particular tests
- The meaning behind
  - Standard deviation - F-test - t-test
  - ANOVA
  - Linear regression; Correlation Coefficient & Coefficient of Determination
- Exploration of more sophisticated statistical techniques such as interval hypothesis testing and experimental design

## Robustness and Ruggedness: the Pathway to System Suitability Tests

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- Method development cycle
- Analytical process capability
- Selecting factors and levels
- HPLC experimental design example
- Impact on system suitability tests

## Method Validation during the Development Lifecycle

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- Product Development Life Cycle
- Sources of Guidance
- ICH Q14 Concept paper
- Screening and Early Safety Studies
- Phase 1 Volunteer Studies
- Phase 2 Clinical trials
- Towards MAA/NDA

## Validation for MAA/NDA: Planning and Execution

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- Analytical validation according to USP
- FDA Guidances for method validation

## Validation for MAA/NDA: Documentation

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- Validation report
- Transfer protocol/report
- Validation documentation for registration
- Validation software
- Other Sources of Guidance

## Error Budgets and Reportable Values

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- What is a reportable value?
- OOS, OOE & OOT
- Method performance and process capability
- ICH precision approach
- Measurement Uncertainty approach combined sources of variation

## Transfer of Analytical Test Procedures

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- Statistical Tests
- Analytical significance vs statistical significance
- Acceptance criteria setting
- Interval hypotheses

## Comparison of the APLM and Current ICH & USP Approaches

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- Traditional approach to analytical method (procedure) validation, verification and transfer
  - ICH Q2(R1)
  - USP <1225> & <1226> [& <1224>]
- FDA process validation guidelines 2011
- USP initiatives: Application to analytical processes
- Proposed General Chapter <1220>
- Statistical toolbox for <1225>; General Chapter <1210>
- New ECA AQC Guideline;
- Analytical Procedure Lifecycle Management
- New ICH initiatives



## Workshops

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During the course 4 workshops will be conducted in order to deepen the content of the lectures and to discuss practical aspects in detail. Workshops will be offered on the following topics:

- Analytical Instrument Qualification
- Validation Plan
- Validation Documents Critique
- Method Transfer



## Q&A Sessions

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Multiple Q&A sessions on all three days ensure interaction and that your questions are answered.

## Speakers



**Dr Christopher Burgess**  
Burgess Analytical Consultancy, UK

He has more than 40 years' experience in the pharmaceutical industry initially within international consultancy. He is a "Qualified Person" in the European Union. He was appointed to the United States Pharmacopoeia's Council of Experts 2010 to 2015 and re-elected 2015 to 2020. He is also a member of the USP Expert Panel on Validation and Verification entrusted to revise General Chapters <1224>, <1225> and <1226>. In addition, he is a member of the Executive committee of European Compliance Academy.



**Trevor J. Coomber**  
Pharmaceutical Development Consultant,  
UK

Trevor Coomber is a Pharmaceutical Development Consultant with over 40 years experience in the industry. He spent six years as a Senior Project Team Leader and Analytical Science Manager in Pharmaceutical Development in Glaxo Wellcome. Prior to that, he was a Team Leader in the Analytical Development Laboratories in Wellcome with 25 years experience in pharmaceutical analysis of NCEs. He has particular expertise in the development of unstable compounds and the use of kinetics to predict shelf lives. He was the project leader for the technical development of an NCE from discovery to market.



**Dr Xaver Schratt**  
GBA Pharma GmbH, Germany

Dr Schratt studied Chemistry at the University of Bayreuth, where he specialized in HPLC and HPLC/MS. In 2005 he joined GBA Pharma (former LAT) and since 2006 he was head of department "special projects". In charge of national and international pharmaceutical companies he managed all analytical aspects of projects from preclinical stage up to phase III and post market approval. As an expert for chromatography and mass spectrometry he mainly focused on method development, validation and qualification of reference substances. Since 2020 he is as Head of Global Quality Management responsible for global processes of GBA Pharma with special focus on IT processes.



## Date of the Live Online Training

Tuesday, 19 October 2021, 09.00 – 16.00 h

Wednesday, 20 October 2021, 09.00 – 17.00 h

Thursday, 21 October 2021, 09.00 – 17.00 h

All times mentioned are CEST.

## Technical Requirements

For our Live Online Training Courses and Webinars, we use Cisco WebEx, one of the leading suppliers of online meetings. At <http://www.webex.com/test-meeting.html> you can check if your system meets the necessary requirements for the participation at a WebEx meeting and at the same time install the necessary plug-in. Please just enter your name and e-mail address for the test. If the installation is not possible because of your rights for the computer system, please contact your IT department. WebEx is a standard nowadays and the necessary installation is fast and easy.

## Fees (per delegate, plus VAT)

Non-ECA Members EUR 1.990.- per delegate plus VAT

ECA Members EUR 1.790.- per delegate plus VAT

APIC Members EUR 1.890.- per delegate plus VAT

EU GMP Inspectorates EUR 995.- per delegate plus VAT

The conference fee is payable in advance after receipt of invoice.

## Registration

Via the attached reservation form, by e-mail or by fax message. Or you register online at [www.gmp-compliance.org](http://www.gmp-compliance.org).

## Presentations/Certificate

The presentations will be made available to you prior to the Live Online Training as PDF files. After the event, you will automatically receive your certificate of participation.

## Conference language

The official conference language will be English.

## Ordering a Recording

Independent from the Live Online Training Courses, you can also order a recording of this training at the same conditions. This recording will be provided on our media server. All you need to watch it is an Internet browser – no additional software. You can order the recording of the Live Online Training at the earliest 10 days after the live performance at [www.gmp-compliance.org/gmp-webinars/recorded-gmp-webinars](http://www.gmp-compliance.org/gmp-webinars/recorded-gmp-webinars).

## Organisation and Contact

ECA has entrusted Concept Heidelberg with the organisation of this event.

CONCEPT HEIDELBERG

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For questions regarding organisation please contact:

Ms Sonja Geppert (Organisation Manager) at

+49(0)62 21/84 44 16, or per e-mail at

[geppert@concept-heidelberg.de](mailto:geppert@concept-heidelberg.de)

## GMP/GDP Certification Programme

This seminar is recognised within the GMP Certification Programme. By attending selected seminars, the participant can acquire an additional certificate. We offer the following modules:

ECA Certified Validation Manager

ECA Certified QA Manager

ECA Certified API Production Manager

ECA Certified Quality Control Manager

ECA Certified Technical Operations Manager

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ECA Certified Microbiological Laboratory Manager

ECA Certified Sterile Production Manager

ECA Certified Biotech Manager

ECA Certified Pharmaceutical Development Manager

ECA Certified GMP Auditor

ECA Certified GDP Compliance Manager

ECA Certified Packaging Manager

ECA Certified Data Integrity Manager



On the internet at [www.gmp-compliance.org](http://www.gmp-compliance.org) you will find a text explaining which seminars are recognised for which certificates. Or you send an e-mail to [info@gmp-compliance.org](mailto:info@gmp-compliance.org) or a fax to +49-(0)6221- 84 44 64 with the request for information about the GMP Certification Programme. We will then send you our brochure on the topic.

## Your Benefit

### Internationally Acknowledged Certificate from ECA Academy

The EU GMP Guide requires: „... All personnel should be aware of the principles of Good Manufacturing Practice that affect them and receive initial and continuing training,...“. This is why you receive an acknowledged participant certificate, which lists the contents of the seminar in detail and with which you document your training.

If the bill-to-address deviates from the specifications on the right, please fill out here:

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P.O. Box 101764  
Fax +49 (0) 62 21/84 44 34  
  
D-69007 Heidelberg  
GERMANY

### Reservation Form (Please complete in full)



## Validation of Analytical Test Procedures & Measurement Uncertainty Live Online Training on 19 – 21 October 2021

Title, first name, surname

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Department

Company

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Important: Please indicate your company's VAT ID Number

Purchase Order Number, if applicable

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City

ZIP Code

Country

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Phone / Fax

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E-Mail (Please fill in)

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#### General terms and conditions

- If you cannot attend the conference you have two options:
    1. We are happy to welcome a substitute colleague at any time.
    2. If you have to cancel entirely we must charge the following processing fees:
      - Cancellation until 2 weeks prior to the conference 10 %
      - Cancellation until 1 week prior to the conference 50 %
      - Cancellation within 1 week prior to the conference 100 %
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- Terms of payment: Payable without deductions within 10 days after receipt of invoice.
- Important: This is a binding registration and above fees are due in case of can-

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- In case you do not appear at the event without having informed us, you will have to pay the full registration fee, even if you have not made the payment yet. Only after we have received your payment, you are entitled to participate in the conference (receipt of payment will not be confirmed)! (As of January 2012).
- German law shall apply. Court of jurisdiction is Heidelberg.

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