



## Speakers



Dr Christopher Burgess  
Burgess Analytical Consultancy, UK



Dr Bernd Renger  
Bernd Renger Consulting, Germany



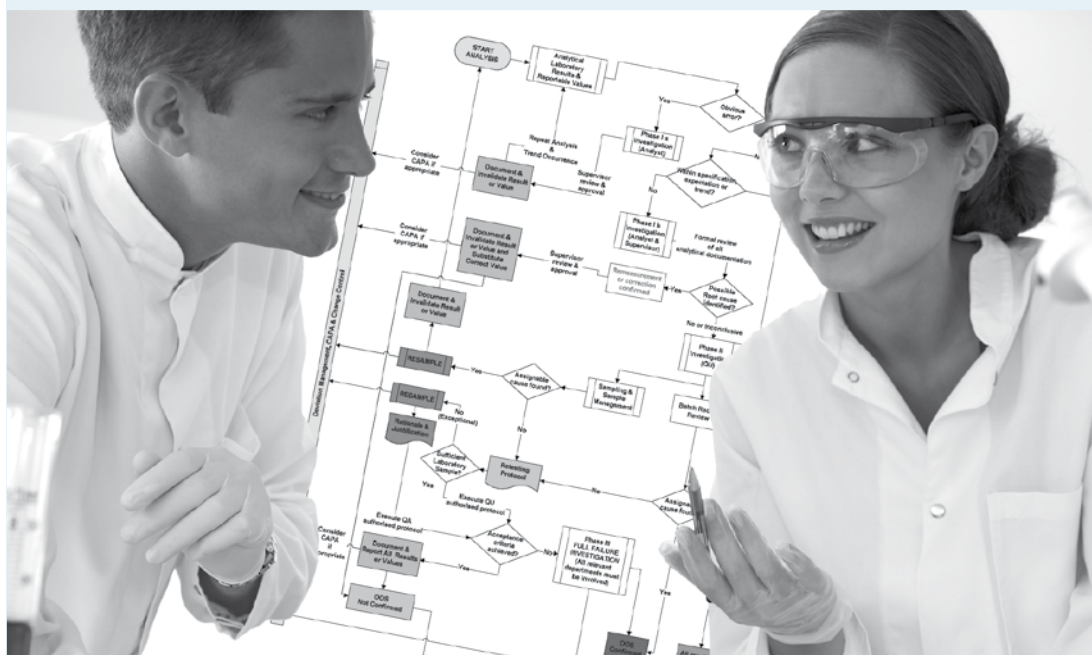
Lance Smallshaw  
UCB Biopharma sprl, Belgium



Dr Lori McCaig  
Roche/Genentech, USA

# Handling OOE and OOT Results

13/14 October 2020 | Prague, Czech Republic



Every participant will receive the current version of  
*ECA's Laboratory Data Management Guidance on OOE and OOT Results!*

## Highlights

- Practical Advice on how to Identify OOE and OOT Results
- Laboratory Data Management Guidance Out of Expectation (OOE) and Out of Trend (OOT) Results compiled by
- ECA's Analytical Quality Control Group
- Methods and Approaches for Detecting
  - Out of Expectation (OOE) Data
  - Out of Trend (OOT) Data, where no Trend is expected
  - Out of Trend (OOT) Data, where a Trend is expected, e.g. for Stability Testing

With an optional Post-Conference  
OOS Workshop on 15 October

## Objective

At this ECA OOE/OOT Training Course participants will get practical advice on how to Identify OOE and OOT Results. The current version of the OOE/OOT Laboratory Data Management Guidance will be presented and participants will have the opportunity to review and discuss the contents and technical aspects of the guidance document as well as looking at the scope and application of the proposed methods within industry.

## Background

The ECA Working Group on Analytical Quality Control was founded in 2010 in order to generate a harmonised SOP on managing analytical deviations within the laboratory including OOS, OOE and OOT results.

Version 2 of the ECA OOS SOP has already been available for all ECA members since 2013.

Given the complexity of the topic, it was decided that the handling of OOT and OOE results should be addressed in a separate guideline SOP, since there is both a lack of knowledge in the industry and a lack of guidance for trend analysis from the regulators in spite of increased regulatory interest in this area.

In 2013 the ECA's QC Working Group decided to address these issues by developing a new guideline aimed at QC and other quality groups to encourage the application of a consistent and scientifically sound approach to trend analysis as part of a QMS for assuring data integrity.

There were initially three core components:

1. Recommended approaches for detecting out of expectation (OOE) data within an analytical sequence which are based on the known process capability of the analytical procedure used.
2. Recommended approaches to detecting out of trend (OOT) data between analytical sequences where no trend is expected. These are based on standard Statistical Process Control methodology and
3. Recommended approaches for detecting out of trend (OOT) data between analytical sequences where a trend is expected as is the case for Stability Testing.

From this foundation the current OOE-/ OOT-Laboratory Data Management Guidance was developed by an international team to provide a harmonised approach to trending.

The ECA Analytical QC Group's goal is to have a basic global framework for OOT/OOE within R&D, production and QC laboratories which is acceptable to the authorities and adaptable for individual companies.

## Target Audience

This conference is intended for technical and managerial personnel dealing with out-of-trend or out-of expectation results, including R&D, production, analytical laboratories, contract laboratories, and Quality Assurance/Quality Control personnel.

## Moderator

Dr Christopher Burgess,  
Burgess Analytical Consultancy Limited, UK,  
Chairman of the Analytical QC Group

## Programme

### Introduction to ECA's Analytical QC Working Group and the OOT Process

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- Overview of ECA's Analytical QC Working Group
- Data quality management in the Laboratory
- Structure of the OOT/OOE guideline generation process
- Importance of a Technical Glossary
- Overview of the contents of the OOT/OOE Guideline
- Aims and objectives for this Forum

### Regulatory Importance of Trend Analysis under the EU GMPs

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- Regulatory concern for the control of processes
- Overview of the cited regulatory references
- Challenges for implementation and inspection
  - within the industry
  - for the inspectorate

### The Statistical Tool Box; Basis for Selection

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- What is a trend?
- What is a control chart?
- Data types
- Data distributions
- Statistical control
  - Common cause variation
  - Special cause variation
- Process stability versus process capability

### Recommendations on: Out of Expectation Results (OOE)

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- Definitions for OOE
- Unexpected variation in replicate determinations
- Unexpected results in a Single Test or a Small Set of Tests
- What level of investigation is necessary and appropriate for OOE results?

## Recommendations for Process Control of Variables

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- Overview of the control of Continuous Data Monitoring for manufactured batches and for analytical test samples
- The basis for Statistical Process Control (SPC)
- Control Charts for Individuals
- Control Charts for Subgroups
- Control Charts for post mortem investigations

## Example Applications for Variables I - SPC

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- Importance of individuals and means
- Example of SPC for continuous individual data; a Moving Range (MR) Shewhart Chart
- Setting the control limits
- Example of SPC for continuous data for subgroups; Xbar and R
- Process Capability
- What if data are not normally distributed?

## Example Applications for Variables II - Cusum for Investigations

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- Theory and application of Cusum analysis
- Cusum versus EWMA charts
- Example of a post mortem Cusum investigation

## Recommended methods: Trending for Process Control of Attributes

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- Basic differences between attributes and variables
- Control charts for attributes
- Applications for attribute data

## Examples for Trending for Process Control of Attributes

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- Theory and application of n and np charts
- Theory and application of C and U charts
- Example of np charting

## Trending for Stability Data I; A simplified Linear Regression Approach

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- Challenges for trending stability data
- Simplified linear regression approach
  - Assumptions and limitations
  - Minimum data requirements
  - Theory and calculation of prediction intervals
- Worked example illustrated using Excel
- Comparison with SAS JMP; why aren't the numbers exactly the same?

## Trending for Stability Data II; Random Coefficients Regression and other more Advanced Models

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- Why is it sometimes necessary?
- Basics of the RCR model
- Advantages and disadvantages over the simplified linear regression approach
- Evaluation of stability data
- Examples of its application using statistical packages



### INTERACTIVE WORKSHOPS

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#### Workshop – Part I – Variables

##### Creating Control Charts in JMP

This workshop will include construction of variables control charts in SAS JMP

*Lance Smallshaw*

#### Workshop – Part II – Attributes

This workshop will include construction of Attribute control charts in Minitab v19

*Dr Chris Burgess*

#### Workshop – Part III – Stability

*Dr Lori A. McCaig*

#### Workshop – Part IV – OOE

Based on real life examples, the delegates will learn a step-by-step approach to determine whether suspect results are really out of expectation or must be accepted as given variability of the method.

*Dr Bernd Renger*



### OOS Workshop on 15 October 2020

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Directly after the OOE/OOT Education Course the ECA OOS Workshop will take place.

The following topics will be discussed:

- OOS: US/FDA and MHRA Guidelines and European Regulatory Expectations
- OOS Results in R&D Laboratories
- WORKSHOP I:  
ECA Analytical Quality Control Working Group - OOS SOP Version 02
- Strategies not to generate OOS results
- WORKSHOP II:  
Laboratory OOS results scenarios in QC and Development will be presented and evaluated in workshop groups

Speakers:

Dr Christopher Burgess, Dr Bernd Renger

## Speakers



Dr Christopher Burgess  
Burgess Analytical Consultancy, UK

Dr Burgess is a “Qualified Person” and was a member of the European QP Association advisory board. He was appointed to the United States Pharmacopoeia’s Council of Experts 2010 to 2015 and re-elected for the 2015 to 2020 cycle. In addition, he is the chairman of the ECA Analytical Quality Control Group and a member of the Executive committee of European Compliance Academy.



Dr Bernd Renger  
Bernd Renger Consulting, Germany

Dr Bernd Renger started at Hoechst AG. Since then, he has held several quality management positions at Mundipharma, Byk Gulden (now Takeda) and Baxter BioScience in Vienna and Vetter Pharma-Fertigung. He was a member of the European Compliance Academy (ECA) Advisory Board and is Immediate Past Chair of the European QP Association.



Lance Smallshaw  
UCB Biopharma sprl, Belgium

Lance Smallshaw is Global Director of Analytical Strategy for NBEs at UCB Biopharma sprl in Belgium. Before that he was Senior Scientist at Eli Lilly and Company, having nearly 34 years experience in Analytical Development and QC Laboratories. He is a member of the Executive Board of ECA and member of the EQPA training team for the past 8 years.



Dr Lori McCaig  
Roche/Genentech, USA

Lori McCaig, Ph.D., is the Head of Stability Program Management within Global Quality Control at Genentech/F. Hoffmann-La Roche Ltd. She is responsible for the strategy, oversight, and governance of commercial Stability programs starting during the registration phase and supporting the product lifecycle, and the control and use of stability related information for small molecules and biologics. She is a member of the USP Biologics Stability Expert Panel.

### 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.

## Date

### Handling OOE and OOT Results

Tuesday, 13 October 2020, 09.00 – 18.00 h

(Registration and coffee 08.30 – 09.00 h)

Wednesday, 14 October 2020, 08.30 -16.30 h

### OOS Workshop

Thursday, 15 October 2020, 08.30 – 16.00 h

(Registration and coffee 08.00 – 08.30 h)

## Venue

Corinthia Hotel Prague

Kongresova 1

14069 Prague 4, Czech Republic

Phone +420 (261) 191 111

Email prague@corinthia.com

## Fees (per delegate, plus VAT)

### Handling OOE and OOT Results

ECA Members € 1,590

APIC Members € 1,690

Non-ECA Members € 1,790

EU GMP Inspectorates € 895

The conference fee is payable in advance after receipt of invoice and includes conference documentation, dinner on the first day, lunch on both days and all refreshments. VAT is reclaimable.

### Post-Conference OOS Workshop

ECA Members € 790

APIC Members € 840

Non-ECA Members € 890

EU GMP Inspectorates € 445

The conference fee is payable in advance after receipt of invoice and includes conference documentation, lunch and all refreshments. VAT is reclaimable.

### Handling OOE and OOT Results & Post-Conference OOS Workshop

ECA Members € 2,190

APIC Members € 2,290

Non-ECA Members € 2,390

EU GMP Inspectorates € 1,340

The conference fee is payable in advance after receipt of invoice and includes conference documentation, dinner on the first day, lunch on all 3 days and all refreshments. VAT is reclaimable.

## Accommodation

CONCEPT HEIDELBERG has reserved a limited number of rooms in the conference hotel. You will receive a room reservation form/POG when you have registered for the conference. 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](http://www.gmp-compliance.org).



## Social Event

In the evening of 13 October 2020, you are cordially invited to a social event. This is an excellent opportunity to share your experiences with colleagues from other companies in a relaxed atmosphere.

## Conference language

The official conference language will be English.

## Organisation and Contact

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

CONCEPT HEIDELBERG

P.O.Box 10 17 64

69007 Heidelberg, Germany

Phone +49(0)62 21/84 44-0

Fax +49(0)62 21/84 44 34

info@concept-heidelberg.de

www.concept-heidelberg.de

For questions regarding content please contact:

Dr Gerhard Becker (Operations Director) at

+49(0)62 21/84 44 65, or at

becker@concept-heidelberg.de.

For questions regarding reservation, hotel,

organisation etc. please contact:

Ms Julia Grimmer (Organisation Manager) at

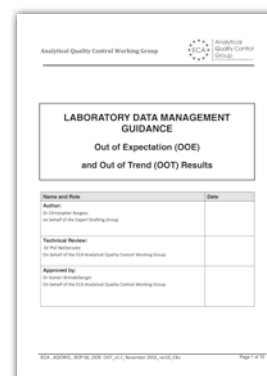
+49(0)62 21/84 44 44, or per e-mail at

grimmer@concept-heidelberg.de.

Every participant will receive the current version of the **ECA Laboratory Data Management Guidance Document for the handling of Out of Expectation (OOE) and Out of Trend (OOT) Results**. This 70 page Guidance Document covers the following topics:

- Scope and application
- Regulatory references
- Overview of the data management in the laboratory and the analytical process
- Responsibilities of QC and QA
- Overview and purpose of trend analysis
- The concept of control charts
- Detection and managing of OOE results
- Statistical Process Control (SPC) of continuous and discrete data
- Techniques for the retrospective investigation of historical data
- Trend analysis in stability testing

The document also has 7 Appendices; a Technical Glossary and worked examples illustrating the main statistical tools and regression methods for setting stability trend limits.



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

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CONCEPT HEIDELBERG  
P.O. Box 101764  
Fax +49 (0) 62 21/84 44 34

D-69007 Heidelberg  
GERMANY

### Reservation Form (Please complete in full)

- Handling OOE and OOT Results, 13/14 October 2020, Prague, Czech Republic
- Post-Conference OOS Workshop, 15 October 2020, Prague, Czech Republic

Title, first name, surname

Department

Company

Important: Please indicate your company's VAT ID Number

Purchase Order Number, if applicable

City

ZIP Code

Country

Phone / Fax

E-Mail (Please fill in)

#### 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 %

CONCEPT HEIDELBERG reserves the right to change the materials, instructors,

or speakers without notice or to cancel an event

if the event must be cancelled, registrants will be notified as soon as possible

and will receive a full refund of fees paid. CONCEPT HEIDELBERG will not be re-

sponsible for discount airfare penalties or other costs incurred due to a cancel-

lation.

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-

cellation or non-appearance. If you cannot take part, you have to inform us in

writing. The cancellation fee will then be calculated according to the point of

time at which we receive your message.

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 con-

ference (receipt of payment will not be confirmed). (As of January 2012).

German law shall apply. Court of jurisdiction is Heidelberg.

Privacy Policy: By registering for this event, I accept the processing of my Personal Data. Concept Heidelberg will use my data for the processing of this order, for which I hereby declare to agree that my personal data is stored and processed. Concept Heidelberg will only send me information in relation with this order or similar ones. My personal data will not be disclosed to third parties (see also the privacy policy at [http://www.gmp-compliance.org/eca\\_privacy.html](http://www.gmp-compliance.org/eca_privacy.html)). I note that I can ask for the modification, correction or deletion of my data at any time via the contact form on this website.