

# Lab Data Integrity

## Meeting FDA & EU Concerns

All participants get a free copy of the current version of the ECA „Data Governance and Data Integrity“ Guidance

### SPEAKERS:



**Dr Christopher Burgess**  
*Chairman of the ECA Analytical Quality Control Working Group*



**Dr Bob McDowall**  
*Member of the ECA IT Compliance Interest Group*



### Part 1: Establishing the Controls for Ensuring Laboratory Data Integrity

4-5 December 2019,  
Barcelona, Spain

### Part 2: Self Inspections and Audits to Confirm Effective Data Integrity Controls

5-6 December 2019,  
Barcelona, Spain

### PROGRAMME:

- **Laboratory Data & Results**
  - EU and US GMP Requirements
  - MHRA and WHO Data Integrity Documents
  - FDA Guidance Documents
  - Inspection Findings: 483 and Warning Letters
- **Dealing with Mistakes before they become Falsification or Fraud**
- **Principles of Data Management**
  - Understanding and Applying ALCOA+ Principles to Laboratory Data
  - Second person review of analytical records
- **Requirements for Raw Data Integrity for**
  - Paper Records
  - Hybrid Systems
  - Electronic Systems incl. ELNs
- **Audit of Analytical Records**
- **Data Transformation: How to Identify and Handle Transcription Errors**
- **Collation and Reporting of Results**



## Lab Data Integrity (Part 1 & Part 2)

4 - 6 December 2019, Barcelona, Spain

### Objectives

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These two courses have the following objectives:

#### Course 1:

The learning objectives are firstly, understand the data integrity requirements of a GMP regulated laboratory in Pharmaceutical organisations and contract labs and secondly, how laboratory personnel can ensure compliance and be able to defend their positions. Records generated by three processes will be taken through the presentations and workshops: paper only with records maintained in a laboratory notebook or controlled sheets, hybrid system with signed paper records with underlying electronic records and an electronic system using electronic signatures. Second person review is a critical process that needs to be thorough and effective to ensure that data issues are picked up and resolved.

#### Course 2:

The auditing course will develop the understanding of what is required for a data integrity audit of a laboratory computerized system and then develop the principles, based mainly on workshops and discussions, of how to audit hybrid and electronic laboratory systems. The scope of auditing a system for data integrity will be developed during the course along with a risk based prioritisation of the key areas to focus audit attention on. In preparation for the final sessions there will be workshops dealing with specific data integrity topics. At the end, attendees will read the laboratory audit report, determine if there are any findings and classify them. Then feedback selected audit findings to the quality control manager and head of quality assurance.

A checklist will be provided to all attendees for the auditing of computerised systems for data integrity.

**Note that this course will focus only on hybrid and electronic systems and will not consider paper-based data integrity.**

### Background

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Data Integrity is currently the major concern with both the FDA and European Regulatory Agencies. Many FDA warning letters and EU GMP inspections have highlighted major data integrity failures at companies globally. The regulatory concern has been responded by the FDA issuing Compliance Program Guide (CPG) 7346.832 that covers Pre-Approval Inspections. This document became effective in May 2012 after Agency inspectors received training in data integrity where they focus on computer systems and not the paper output. The CPG objective 3 covers the laboratory data integrity audit. In April 2016 a draft data integrity guidance was issued for industry comment.

In March 2015, MHRA issued an updated Data Integrity Guidance containing an expansion of the expectations of data integrity governance together with a list of 19 definitions and expectations for each one. Followed in July 2016 by a more general guidance for GXP data integrity.

In June 2016, the World Health Organisation issued a final version of a guidance document which provides a more encompassing explanation of data integrity and also data governance expectations for regulated healthcare companies. EMA and PIC/S both issued draft data integrity guidance documents in August 2016. ECA have published two versions of Data Governance and Data Integrity guidance in 2016 and 2018. The GAMP Forum have published a Guide on Records and Data Integrity in 2017 and the first of three Good Practice Guides on Data Integrity - Key Concepts. Lastly, PDA have also issued a guidance document for pharmaceutical laboratories in August 2018.

The emphasis of all regulators is on the ALCOA principles to outline regulatory expectations for ways to ensure the integrity of data over the life cycle. This is reflected in the way the two courses will be presented.

**Course 1** focuses on three types of record that can be found in analytical laboratories working to GMP: paper, hybrid computerized system and electronic workflows with electronic signatures. Through presentations, workshops and discussions attendees are taken through the process from analysis to generation of results to understand data integrity issues.

**Course 2** takes the principles from the earlier course and develops them to enable attendees to be able to conduct effective internal audits or self-inspections of either hybrid or electronic systems in compliance with EU GMP Chapter 9. This is achieved mainly via a series of interlinked workshops with a few presentations. **This course will focus only on hybrid and electronic systems.**

### Target Audience

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These courses will be of significant value to:

- Managers and scientists from Quality Control and Analytical Development Laboratories wanting to understand the data integrity and audit process
- Quality Assurance personnel
- Contract Research Organisation and Contract Manufacturing Organisation laboratory and QA personnel
- Auditors (internal and external) responsible for assessing laboratory quality and data integrity

## Programme Course 1: Establishing the Controls for Ensuring Laboratory Data Integrity

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### EU and FDA GMP Regulations Impacting Laboratory Data and Results

- EU GMP requirements
- MHRA and WHO Data Integrity Guidances
- FDA GMP requirements
- FDA Guidance documents OOS, Inspection of QC labs
- Inspection findings 483 and warning letters
- Defining data integrity, “complete data” and „raw data“

### Principles for the Generation of Data

- Observational tests and instrument tests
- Training of staff
- Qualified analytical instruments and validated software
- Integrity issues
- Application of ALCOA+ principles

### WORKSHOP I: Generation of Data

- What are the requirements for raw data integrity?
- Three scenarios covering
  - a paper system
  - a hybrid system
  - a client server electronic system

### Processing and Reporting of Data

- Paper / hybrid based systems
- Networked systems with electronic records and signatures
- Calculations and transformation of data manually and by computer applications
- Application of ALCOA+ principles to the process
- Calculating the reportable value and comparison with the specification
- Paper processes versus electronic processes
- Linkage with out of specification investigations (OOS)

### WORKSHOP II: Processing and Reporting of Data

- Reviewing an analytical record
- Scenario covering paper based record and an electronic system

### Reviewing Data

- Role of the second person review
- Determination that the reportable result is correctly calculated
- Identification and correction of errors for paper and electronic systems
- Do you have complete data?

### WORKSHOP III: Data Review – Paper Records

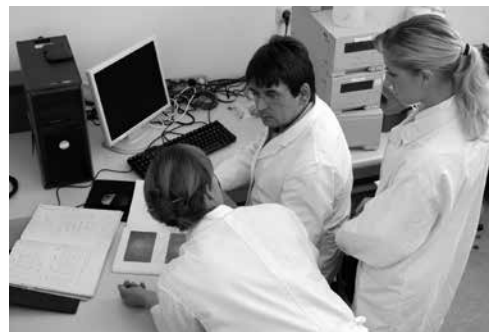
- Application of ALCOA+ principles for the review of paper records

### WORKSHOP IV: Facilitated Discussion Paper, Hybrid and Electronic Reporting Processes

- Discussion of the strengths and weaknesses of reporting processes

### Key Learning Points and Final Discussion

### End of Course 1 / Registration for Course 2



## Programme Course 2: Self Inspections and Audits to Confirm Effective Data Integrity Controls

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### Data Integrity Self Inspections and Audits for Hybrid and Electronic Systems

- Data integrity audits of computerised systems
- Understanding the data life cycle of the system to be audited
- Validated system can have data vulnerabilities
- Presentation and discussion of the data integrity audit checklist

### WORKSHOP I: Risk Assessment and Prioritisation

- So much to do but so little time – risk management in practice
- When conducting a data integrity audit which areas within a pharmaceutical quality system will be the focus?
- Feedback and discussion with the teaching team

### WORKSHOP II: FDA Key Laboratory Data Integrity Concerns

- Working in teams, attendees will analyse FDA warning letters to understand the regulatory concerns.
- Discussion and feedback session with the teaching team

### WORKSHOP III:

#### Spreadsheet Auditing

- Working in groups attendees will be given a printout of a spreadsheet
- What questions need to be asked to determine if there is sufficient data integrity and control?
- Feedback and discussion with the teaching team

### WORKSHOP IV:

#### Hybrid Systems Auditing

- A laboratory system is used in hybrid mode
- What questions should the auditor ask to determine if there are any data integrity problems?
- Feedback and discussion with the teaching team

### WORKSHOP V:

#### Audit Trail of Electronic Systems and Electronic Signature Auditing

- Review of audit trail entries is a key data integrity requirement of Annex 11
- Attendees will review the printout of an audit trail to determine if there any data integrity issues to be raised?
- Use of electronic signatures can mask some data integrity issues
- Can the attendees find what those issues are?
- Feedback and discussion with the teaching team

### WORKSHOP VI:

#### Preparing for the Data Integrity Audit

*In the first of three linked workshops, attendees will be given a laboratory scenario to answer the following questions:*

- What will be the composition of the audit team?
- What will be their skills?
- What will be the duration of the audit?

### WORKSHOP VII:

#### Observations and Findings During a Laboratory Audit and Planning the Closing Meeting

- Each team will be provided with an audit of a laboratory with observations
- Teams will determine if there are any data integrity non-compliances with the regulations and laboratory procedures
- Teams will determine if any observations are findings (non-compliances) and grade the severity of each one
- Prepare for the closing meeting with the Head of the Laboratory and the business process owner of the systems

### WORKSHOP VIII:

#### Feedback to the Auditees

- Teams will present the audit conclusions and the findings to the Head of the Laboratory and the business process owner of the systems
- Discussion with the auditees of the findings

#### Review of the Course and Key Learning Points

### Speakers



#### Dr Christopher Burgess

*Burgess Analytical Consultancy Ltd., UK  
Chairman of the ECA Analytical Quality Control Working Group*

He is a Chartered Chemist and has more than 40 years' experience in the pharmaceutical industry initially with Glaxo in Quality Assurance and Analytical R&D and then in international consultancy. He is a "Qualified Person" in the European Union and 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 2015 to 2020 for and is a visiting professor of the University of Strathclyde's School of Pharmacy and Biomedical Sciences (SIPBS). In addition, he is the chairman of the ECA Analytical Quality Control Group and a member of the Executive committee of European Compliance Academy. He is also a member of the USP Expert Panel on Validation and Verification entrusted to revise General Chapters <1224>, <1225> and <1226>.

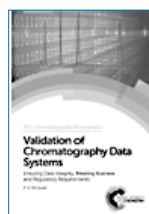


#### Dr Bob McDowall

*RD McDowall Limited, UK  
Member of the ECA IT Compliance Interest Group*

Analytical chemist with over 40 years experience including 15 years working in the pharmaceutical industry; Bob has been a consultant for over 25 years. He has been involved with the validation of computerised systems for over 25 years and is the author of the second edition of a book on the validation of chromatography data systems published in December 2016. Bob is the writer of the Questions of Quality (LC-GC Europe) and Focus on Quality (Spectroscopy) columns and is a member of the Editorial Advisory Boards of several Journals.

### Literature



Participants of this Course can also purchase the 2nd Edition of Dr Bob McDowall's books "Validation of Chromatography Data Systems" or Data Integrity and Data Governance: Practical Implementation for Regulated Laboratories (Royal Society of Chemistry) each with a discount of 20%!

**You will receive the order form for both books at the course.**



## 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 event. 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).

## 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  
D-69007 Heidelberg, Germany  
Phone +49 (0) 62 21/84 44-0  
Fax +49 (0) 62 21/84 44 34  
[info@concept-heidelberg.de](mailto:info@concept-heidelberg.de)  
[www.concept-heidelberg.de](http://www.concept-heidelberg.de)

### For questions regarding content:

Dr Günter Brendelberger (Operations Director) at +49-62 21 / 84 44 40, or per e-mail at [brendelberger@concept-heidelberg.de](mailto:brendelberger@concept-heidelberg.de).

### For questions regarding reservation, hotel, organisation etc.:

Ms Marion Weidemaier (Organisation Manager) at +49-62 21 / 84 44 46, or per e-mail at [weidemaier@concept-heidelberg.de](mailto:weidemaier@concept-heidelberg.de)

## Social Event

In the evening of the first course day, 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.



## Analytical Quality Control Working Group IT Compliance Group

### Guidance Document: Data Governance and Data Integrity for GMP Regulated Facilities

Every participant of this Course will receive the Guidance Document (92 pages) covering the following topics:

- Objectives and Scope of this Guidance
- Background
- Regulatory References, Guidance and Requirements
- Data Integrity Governance
- Policies, Procedures & Processes
- Establishing Criteria for Data Integrity and Security of Records based on ALCOA+ Principles
- Auditing for Data Integrity and Security of Records
- Illustrative Appendices
- References / Technical Glossary




### Lufthansa is Mobility Partner for all ECA Events

As an ECA course or conference attendee, you will receive up to 20% discounted travel fares (according to availability). And as Lufthansa German Airlines offers a comprehensive global route network linking major cities around the world you will most likely be able to benefit from these special prices and conditions. And this is how it works: Once you registered for a course or conference you will receive a link together with your registration confirmation. Opening that link will take you to the Mobility Partner Program website where you can enter a code in the "Access to Event Booking" area you will also receive. This will take you into an online booking platform\* that will automatically calculate the discount offered or provide you with an even better offer if another promotional fare is available.

We look forward to welcoming at one of our next events – and we already wish you a pleasant flight!

\*Please note: You may have to enable pop-ups on the Mobility Partner Program website – other-wise the booking platform window will not open.

# Easy Registration

 **Reservation Form:**  
**CONCEPT HEIDELBERG**  
P.O. Box 10 17 64  
69007 Heidelberg, Germany

 **Reservation Form:**  
**+ 49 6221 84 44 34**

 **e-mail:**  
**info@concept-heidelberg.de**

 **Internet:**  
**www.gmp-compliance.org**



+ 49 6221 84 44 34

Reservation Form (Please complete in full)

- Lab Data Integrity (Part 1 AND Part 2)**, 4 - 6 December 2019, Barcelona, Spain
- Lab Data Integrity (Part 1 only)**, 4 - 5 December 2019, Barcelona, Spain
- Lab Data Integrity (Part 2 only)**, 5 - 6 December 2019, Barcelona, Spain

- Mr.
- Ms.

Title, first name, surname

Company Department

**Important: Please indicate your company's VAT ID Number** PO Number if applicable

Street/P.O. Box

City Zip Code Country

Phone/Fax

E-Mail (please fill in)

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**

### General terms and conditions

- 1. If you cannot attend the conference you have two options:
  - We are happy to welcome a substitute colleague at any time.
  - If you have to cancel entirely we must charge the following processing fees: Cancellation
    - until 2 weeks prior to the conference 10 %
    - until 1 week prior to the conference 50 %
    - 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 responsible for discount airfare penalties or other costs incurred due to a cancellation.

**Terms of payment:** Payable without deductions within 10 days after receipt of invoice.

German law shall apply. Court of jurisdiction is Heidelberg.

**Important:** This is a binding registration and above fees are due in case of cancellation 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 conference (receipt of payment will not be confirmed)! (As of January 2012)

**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.

## Date Course 1: Establishing the Controls for Ensuring Laboratory Data Integrity

Wednesday, 4 December 2019,  
09.00 h - 18.00 h  
(Registration and coffee 08.30 h - 09.00 h)  
Thursday, 5 December 2019,  
08.30 h - 12.30 h

## Date Course 2: Self Inspections and Audits to Confirm Effective Data Integrity Controls

Thursday, 5 December 2019,  
13.30 h - 18.00 h  
(Registration and coffee 13.00 h - 13.30 h)  
Friday, 6 December 2019,  
08.30 h - 16.00 h

## Venue

Barcelo Sants Hotel  
Pl. Països Catalans, s/n  
08014 Barcelona, Spain  
Phone +34 93 503 53 00  
sants@barcelo.com

## Fees (per delegate plus VAT)

### Course 1: Establishing the Controls for Laboratory Data Integrity

ECA Members € 1,290  
APIC Members € 1,390  
Non-ECA Members € 1,490  
EU GMP Inspectorates € 745  
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.

### Course 2: Self Inspections and Audits to Confirm Effective Data Integrity Controls

ECA Members € 1,290  
APIC Members € 1,390  
Non-ECA Members € 1,490  
EU GMP Inspectorates € 745  
The conference fee is payable in advance after receipt of invoice and includes conference documentation, lunch on the second day and all refreshments. VAT is reclaimable.

### If you book both courses simultaneously, the fee for each course reduces as follows:

ECA Members € 1,090  
APIC Members € 1,190  
Non-ECA Members € 1,290

