



Certification For Cleanroom Professionals

2012

Koos Agricola
Secretary ICEB

ICEB Executive Board

- Da Qian Wang – Chairman, CCCS China
- Koos Agricola - Secretary, VCCN The Netherlands
- Laure Alloul-Marmor - Treasurer, ASPEC France
- Conor Murray - adviser

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What is the ICEB?

- International Cleanroom Education Board
- Education instrument of the ICCCS
- Exclusively for ICCCS Members as national cleanroom/contamination control societies
- Acts as an Umbrella Accreditation organisation for national CR/CC societies' training & education

What is the ICEB?

- Professional Certification through Examination
- Sets vision, objectives and guidelines for accreditation
- Reviews accreditation applications
- Promotes harmonisation of cleanroom courses
- Promotes Co-operation between national societies

ICEB Member Responsibilities

- Must be a member of the ICCCS
- Follow guidelines and share/ franchise courses among themselves
- Protect the interests of ICEB members
- Responsible for the Quality Control and Delivery of ICEB accredited courses and examination
- Organise training and education courses including examinations
- Maintain a record of students that pass examination
- Maintain a record of the validity of issued ICEB certificates

ICEB Objectives

- Harmonising cleanroom education and training throughout the world according to TC209 ISO standard (14644 and 14698)
- Fundamental principle of Professional Certification through Examination
- Stimulate international education in cleanroom technology and contamination control
- Encourage International co-operation & exchange of courses.
 - Between national cleanroom societies
 - Between cleanroom users and professionals

ICEB History

2005 ICCCS meeting Moscow,

- Taskforce Cleanroom Education

2006 ICCCS meeting Beijing

- Exploratory meeting ICEB Amsterdam,
- Founding of the ICEB in Beijing
- 11 members (ICS, S2C2, VCCN, ASPEC, ASCCA, Nordic R3, ASENMCO, CCCS, KACA, JACA)

ICEB History

2007 Annual ICCCS/ ICCB meeting in Paris, France

- Executive Board elected: Chairman: Conor Murray (ICS), Secretary: Bill Whyte (S2C2), Treasurer: Laure Alloul-Marmor (ASPEC).
- Draft guidelines for accreditation of 1st courses (CCCS & S2C2)

2007 ICEB meeting in Chicago –

- name changed to International Cleanroom Education Board, ICEB
- first set of accreditation guidelines
- 7 courses from 3 countries accredited

2008 Annual meeting in Cork, Ireland

- statutes signed

ICEB History

2009 Annual meeting in Washington

- complete set of guidelines and course structure,
- election Koos Agricola, VCCN as Secretary

2010 Annual meeting in Tokyo

- course programme,
- election Laure Alloul-Marmor (ASPEC) as Treasurer
- ECCCS becomes new member
- ICEB student fee increased from €5 to € 10 per student
- 14 courses from 5 countries accredited.

ICEB History

2011 Annual meeting in Milan

- election Wang Da Qian (CCCS) as Chairman,
- Business Plan presented
- SBCC and ÖRRG join ICEB (there are now 14 members)
- 22 courses from 7 countries accredited



Guidelines for accreditation

1. Type of course
2. Course objectives
3. Content of course & course notes
4. Course entry requirements
5. Lecturers and demonstrators
6. Examination information
7. Advisory and examination board
8. Duration of certification
9. Public traceability

Core subjects in Cleanroom Technology

Branch 1 - Design and Construction of Clean Zones

- Information on ISO 14644-1; ISO 14644-4; ISO 14644-7 and, for pharmaceutical applications, Annex 1 of the EU GMP and FDA Guidance document
- Recommended practices and guidelines. Country guidelines
- Design of the following: Unidirectional cleanrooms; Non-unidirectional cleanrooms; Separative clean air devices; Ancillary Cleanrooms e.g. changing and material transfer; Containment zones
- Contamination-free liquids and gases
- Clean build; Conventional and modular building techniques. Contamination-free, outgassing and electrostatic properties of constructional materials; Energy saving
- High efficiency air filters: Construction of filters and housings; Particle removal mechanisms
- Setting the cleanroom to work using an overview of the topics given in Branch 2 (testing and monitoring)

Core subjects in Cleanroom Technology

Branch 2 - Cleanroom Testing and Monitoring

- Information on ISO 14644-1; ISO 14644-2; ISO 14644-3; ISO 14698; ISO 14644-8
- Other standards and recommended practices and local documents
- Principles of cleanroom testing, and test methods
- Microbial sampling of air, surfaces and personnel
- Testing of liquids and gases
- Measurement of chemicals in air

Branch 3 - Cleanroom Operations

- Information in ISO 14644-5
- Local documents and other standards and recommended practices
- People and personal items allowed into cleanrooms
- Disciplines within the Cleanroom
- Changing into and out of cleanroom garments
- Choice of materials for manufacture in a cleanroom
- Transfer of materials in and out of a cleanroom
- Sources and routes of particles and microbes
- Types and properties of cleanroom clothing; masks and gloves
- Cleaning a cleanroom. Implements and liquids used; How a cleanroom should be cleaned

Plan for 2012

- Expansion ICEB course programme
- Encourage new members from ICCCS
- Set up group of cleanroom experts for future international auditing
- Develop linkages with recognised national and international educational institutions
- Encourage Regional and International Co-operation.

