## Validation and Process Control for Low Energy Electron Beam Irradiation

### Day 1

**09:00**

**Introduction**
- Electron accelerator facilities
- Standards -- Principles of IQ-OQ-PQ
- Guide on the use of low energy e-beam for decontamination

**10:30**

**Dosimeter systems**
- Alanine films
- Risø B3, GEX, FWT
- RisøScan
- $D_\mu$ - principles and method

**13:00**

**Calibration**
- Prepare dosimeters for irradiation
- Irradiation of dosimeters
- Measure dosimeters

**15:00**

**Measure dosimeters**
- RisøScan
- Spectrophotometer
- Establish calibration functions
- Verification of calibration

### Day 2

**Measurement traceability**

**IQ-OQ**
- Dose as function of current, speed, beam width
- Beam Penetration (Energy)
- Reference product dose map
- Process interruption

**LUNCH**

**Establish maximum acceptable dose**

**Effect of radiation on polymers**

### Day 3

**PQ - Dose mapping**

**Prepare products for irradiation**

**Measure dosimeters**

**Analysis of data**

**Process control**
- Use of uncertainty data
- Setting of irradiation parameters

### Close 16:30

- Microbiological aspects
- ISO 11137 – methods
- Low energy issues