

*Join a summer school unique in the world:  
On analytical science, metrology and accreditation.*  
**FIRST CIRCULAR**



Laboratory Accreditation (according to ISO/IEC-17025) plays a crucial role all across the world. Though many are taught analytical techniques in their science or engineering education, their courses rarely address the knowledge and skills required in the context of accreditation. This is exactly the focus of this school.

- Evaluation of measurement uncertainty in chemical measurements; uncertainty and compliance
- Statistics and statistical basis of calibration;
- ISO/IEC-17025 standard quality system and laboratory assessment;

### A long tradition

The international school has been fostered by the European Commission Joint Research Centre, in view of the importance of laboratory accreditation in European legislation and external trade. In 2008, the JRC was instrumental in bringing together a consortium of universities offering an international master programme in Measurement Science in Chemistry ([www.msc-euromaster.eu](http://www.msc-euromaster.eu)), which received a Euromaster® quality label (in 2008, renewed in 2013).



### The Programme:

Topics covered are :

- Traceability in chemical and bio-analytical measurements
- Validation of such measurement procedures

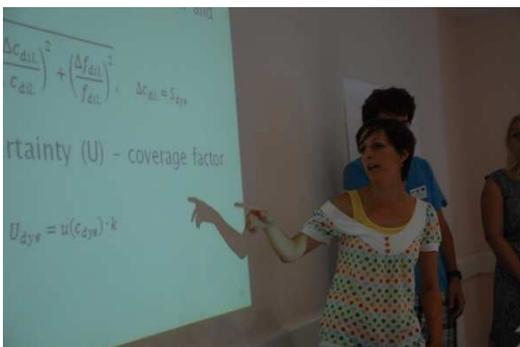
### Teaching methods:

Problem based learning is at the heart of the school. There are lectures, but project work, case studies and assignments carry most weight. Throughout the school, students work in small teams to tackle the various challenges which they will be given. Each team needs to set up an independent analytical laboratory to perform service analysis for a customer.



They perform the work but also play real situations in an accredited lab, e.g. contract negotiation with a customer, performing an actual analysis for this customer, undergoing laboratory auditing but also auditing a sub-contractor, reporting of results, participation in a proficiency test.

After successfully completing the pre-school work, the examination, laboratory work and the post-school assignments, 12 ECTS are awarded.



#### Teachers:

They have been running the school for 7 years. They have extensive experience either lecturing in analytical science, working in an accredited laboratory or acting as an accreditation assessor.

#### Who can take part?

The majority of students will be Master students of the MSC consortium who are between year one and year two of their Masters. However, about ten positions are available for non-consortium students with a suitable background (admission on basis of curriculum and letter of motivation). In the past, many of these students have been staff (with either a master or PhD degree) working for national metrology institutes (or designated institutes) who are or soon

will be active in metrology in chemistry. Others were doctoral students or researchers.

#### Practical information

**Location:** the summer school will take place in Puławy, Lublin, at the Institute of Soil Science and Plant Cultivation (<http://www.iung.pulawy.pl/eng>) and its annex hotel facility (<http://hotel.iung.pulawy.pl/en>) located in spacious grounds. The venue is located 130 km from Warsaw, and 55km from the city of Lublin, accessed easily by public transport.

**Dates:** 11-25<sup>th</sup> July 2015

**Cost:** the registration fee is 2500€ and **includes** all tuition fees, training material, insurance, use of laboratory instruments and reagents, social activities (welcome reception, closing dinner, an excursion), all meals and accommodation. Travel costs from your home town to Warsaw or Lublin airports are not included, but an airport pick up is foreseen. For a limited number of participants, the participation fee can be reduced to 1500€ depending on available resources.

**Initial Expression of interest:** those possibly interested in participating to the 2015 school, can express their interest up to 30 Nov 2014 by sending a motivation letter and CV to [euromasterMSCsummerschool@gmail.com](mailto:euromasterMSCsummerschool@gmail.com).

