



Regional Training Course on Quality Assurance in using nuclear techniques for elemental analysis of APM

Hosted by

The International Atomic Energy Agency
IAEA Headquarters

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Information Sheet

Purpose

The purpose of the Regional Training course is to set harmonized procedures for air particulate matter characterization using nuclear and complimentary techniques. There are a variety of techniques available in the region for measuring chemical composition of APM in the region, including X-ray Fluorescence spectrometry (XRF) and Ion Beam Analysis techniques (PIXE). For the analysis of black carbon, the usual techniques are based on using reflectometers or on-line aethalometers. Recently instruments have been developed for differentiating fuel or biomass origin black carbon species based on multi-wavelength transmission measurements. A comparison of performance across these techniques is still required. Due to the need to obtain reliable results that would be shared among the participating countries it is required that these techniques would be properly validated. It is expected that the training course will offer the opportunity that all participants will acquire recommendations allowing validating their analytical protocols according to the ISO17025 requirements. The course will provide harmonized procedures to follow up and apply in their own countries for air particulate matter characterization.

Background Information

It is generally perceived that air pollution is one of the most vexing problems facing industrialized

countries. Increased activity in key social and economic sectors are contributing significantly to air pollution which has gradually grown into a major environmental concern for European policy makers and gained prominence on the region's political agenda. Unsustainable patterns of consumption and production of energy resources by industry, transport and household sectors have been the leading sources of key indoor and outdoor air pollutants.

The project aims at improving the accuracy of the established elemental/chemical profiles and enhance the usability of the available data. The project will also include an assessment of the identification of local and regional sources in each study area by using other source profiles established across the region to generate a unique and valuable set of data for the region and help in the management of air quality in the region. Therefore, it is required that the quality of the analytical results will be sufficient as to make the data acquired useful for interpretation and thus to avoid the possibility of providing inaccurate results.

Working Language(s)

The working language(s) of the event will be English.

Deadline for Nominations

Nominations received after **3 September 2018** will not be considered.

Scope and Nature

The workshop aims to develop basic theoretical and technical/practical capacity in the participating Member States in terms of: 1) Validation of the methods to be used for APM elemental composition analysis, 2) Validation of the measurements of black carbon analysis; 3) Providing recommendations for further quality assurance and quality control actions, including the participation in a proficiency test exercise.

The workshop will include theoretical presentations by experts complemented by hands on practical sessions on operational procedures of APM characterization using XRF, IBA and multi-wavelength transmission measurements.

Expected Output:

Build theoretical and technical capacity for validating elemental analysis using nuclear techniques in the participating Member States for Air Particulate Matter (APM) characterization.

Harmonize laboratory operations for black carbon analysis in participating Member States

Participation

The event is open to 15 participants from Member States.

Participating countries are encouraged to submit candidates who are both directly and heavily involved with the implementation of the RER/7/011 activities. The participants should be capable of freely expressing themselves in English and following discussions.

Participants' Qualifications and Experience

Training Course is intended for participants with an academic background at least equivalent to a Bachelor's degree in Physics, Chemistry and Engineering or higher (PhD) with experience in environmental analytical studies using x-ray emission techniques.

Application Procedure

Candidates wishing to apply for this event should follow the steps below:

1. Access the IAEA TALEO page (<https://iaea.taleo.net/>) and complete the Candidate Profile.
2. Be registered on the Nucleus page of the IAEA (<https://nucleus.iaea.org/>).
3. Through Nucleus, access the InTouch+ platform where the Profile is completed (My Profile tab) (<https://nucleus.iaea.org/Pages/InTouchPlus.aspx>).
NOTE: The email used for TALEO and Nucleus must be the same. If not, the candidate's profile will not appear complete.
4. On the InTouch + platform, under the 'My InTouch +' tab, the candidate needs to:
 - a. select the institute / organization that he/she works at / represents ('My Institute' section);
 - b. click on the link called '**Refresh Personal History Form**' to update the system, *otherwise the nominations submitted will have these fields empty and it will not be possible to evaluate them during the selection of candidates* ('IAEA Recruitment Platform' section).

NOTE: Once the above steps are finalized, the candidate's profile will appear as completed and he/she can apply for Technical Cooperation events.

5. In the InTouch+ platform (<https://intouchplus.iaea.org>), in the 'Applications' tab, search by the event number provided in the invitation.

The help for each step is located at the top of the page. For additional help on how to register, create a profile and apply for an event, please refer to the online guide and training videos available under the following links: [how-to guide](#) and [training videos](#). Any issues or queries related to the new system can be addressed to InTouchPlus.Contact-Point@iaea.org or TC-AIPS-PL4.Contact-point@iaea.org.

Should this not be possible, applicants may download the Nomination Form for the TN from the IAEA website <https://www.iaea.org/services/technical-cooperation-programme/how-to-participate>.

Applications should contain sufficient information to establish that the nominees have the required qualifications. Please note that the information regarding LANGUAGE SKILLS, EDUCATION AND WORK EXPERIENCE is exported from TALEO. If an applicant's profile in TALEO is not updated, the information in INTOUCH+ for these sections appears as empty and the candidates cannot be evaluated. Completed applications need to be endorsed by the relevant national authority, i.e. the National Liaison Office and submitted through the established official channels.

Administrative and Financial Arrangements

Nominating authorities will be informed in due course of the names of the candidates who have been selected, and will at that time be informed of the procedure to be followed with regard to administrative and financial matters.

Selected participants will receive an allowance from the IAEA sufficient to cover their costs of lodging, daily subsistence and miscellaneous expenses. They will also receive either a round-trip air ticket based on the most direct and economical route between the airport nearest their residence and the airport nearest the duty station through the IAEA's travel agency American Express, or a travel grant, or they will be reimbursed travel by car/bus/train in accordance with IAEA rules for non-staff travel.

Disclaimer of Liability

The organizers of the event do not accept liability for the payment of any cost or compensation that may arise from damage to or loss of personal property, or from illness, injury, disability or death of a participant while he/she is travelling to and from or attending the course, and it is clearly understood that each Government, in approving his/her participation, undertakes responsibility for such coverage. Governments would be well advised to take out insurance against these risks.

Note for female participants

Any woman engaged by the IAEA for work or training should notify the IAEA on becoming aware that she is pregnant.

The Board of Governors of the IAEA approved new International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources. The Standards deal specifically with the occupational exposure conditions of female workers by requiring, inter alia, that a female worker should, on becoming aware that she is pregnant, notify her employer in order that her working conditions may be modified, if necessary. This notification shall not be considered a reason to exclude her from work; however, her working conditions, with respect to occupational exposure shall be adapted with a view to ensuring that her embryo or foetus be afforded the same broad level of protection as required for members of the public.

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