

International Atomic Energy Agency
Department of Nuclear Sciences and Applications
Environment Laboratories, Monaco and Seibersdorf

Analytical Laboratories for the Measurement of Environmental Radioactivity
A L M E R A

**Training Course on Rapid Assessment Methods
for Environmental Radioactivity (IAEA-TM-47303)**

PROSPECTUS

- Title:** Rapid Assessment Methods for Environmental Radioactivity
- Host Institute:** Argonne National Laboratory, Argonne, IL, United States of America
- Dates:** 10-21 March 2014
- Organizers:** The International Atomic Energy Agency (IAEA) and the Argonne National Laboratory (ANL), USA
- Host Country Organizer:** Ms Sunaree Hamilton
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Email: IAEA-ANLCourse@anl.gov
- Language:** English
- Purpose:** The course addresses the needs of ALMERA network laboratories interested in enhancing their rapid analytical capabilities supporting the assessment of environmental contamination in emergency situations. The purpose of the course is to provide participants with intensive training on selected relevant topics, including: rapid radiochemical laboratory procedure validated by ALMERA laboratories and published by the IAEA; field detection and sampling in case of environmental contamination; quality aspects of sampling and analytical work; data evaluation and management; specific applications of the RESRAD dose assessment codes.
- Expected Output(s):** The course will enable the participants to learn about state-of-the art methods, which they will apply in their laboratories in situations where a

rapid assessment of radionuclides in the environment is required. The course will result in dissemination of these methods and harmonisation amongst ALMERA laboratories.

Scope and Nature:

The course will take place over a two-week period, providing lectures, laboratory hands-on practical work and field work. Laboratory safety instruction will be provided in preparation of laboratory work.

The training programme includes discussions of the materials presented and a session where the participants will briefly introduce their laboratory, their work and their expectations and goals for the training. Course materials and, where applicable, IAEA documents, will be provided on adequate information support.

Over the two-week period the following topics will be addressed:

- Rapid determination of Pu isotopes and Am-241 in soil and sediment samples by alpha spectrometry (laboratory exercise)
- Field detection and sampling in case of environmental contamination (field exercise)
- Critical response elements in accidental radioactive contamination of the environment
- Sample chain of custody, laboratory quality assurance, data quality and data management
- Specific applications of the RESRAD dose assessment codes (practical exercise)
- Evaluation of complex gamma-ray spectra of environmental samples (practical exercise)

A technical visit of selected facilities at the Argonne National Laboratory is included in the programme.

Background Information:

The course is developed to support the interest expressed by many ALMERA laboratories to develop their rapid assessment capabilities. It is part of the specific support provided to these laboratories, which includes methodological developments, proficiency tests and targeted training. It is the first in a series of courses organised in collaboration with Argonne National Laboratory. The course was initially planned for the period 4-15 November 2013 and due to objective reasons had to be rescheduled to 10-21 March 2014.

Participation:

The training course will be attended by 24 participants from laboratories which are members of the ALMERA network which have expressed their interest in developing their rapid response capabilities and in participating in related methodological, analytical and preparedness activities. The selection of the participants was completed based on applications submitted officially to the Agency for the initially planned dates.

Participants' Qualifications:

The participants are specialists in environmental radiochemistry, analytical chemistry, radio-analytical techniques, environmental radioactivity or environmental assessment. The participants hold a university degree and

have a minimum of 2 years' experience in one of the fields above.

**Nomination
Procedure:**

No further nominations are accepted for this training course as of November 8th 2013. ALMERA members will be informed of future training courses.

**Administrative
and Financial
Arrangements:**

Selected participants will be provided with a round trip air ticket from their home countries to Chicago, IL, USA, and a stipend sufficient to cover the cost of their accommodation, food, and minor incidentals.

The organizers of the training course 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 training course, and it is clearly understood that each Government, in nominating participants, undertakes responsibility for such coverage. Governments would be well advised to take out insurance against these risks. A copy of the insurance policy will be requested for the issuance of the visa.