



# **Virtual Regional Training Course on Applied Radiation Technology as a Tool for Recycling of Polymer Waste**

**Hosted by**

The International Atomic Energy Agency  
IAEA Headquarters  
Vienna, Austria

**16 to 20 August 2021**

**Ref. No.: TN RER1021-2102437**

## **Information Sheet**

### **Purpose**

The purpose of the event is to provide training on the fundamentals of the radiation chemistry of polymer and the applications of specialized radiation technology for the recycling of polymer waste.

### **Working Language(s)**

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

## **Deadline for Nominations**

Nominations received after 19 July 2021 will not be considered.

## **Project Background**

The radiation processing is based on the physical and chemical changes introduced by the interactions of ionizing radiation with matters. Ionizing radiation produces ionization and excitation by transferring energy to electrons present in atoms of the stopping material. The use of ionizing radiation for industrial applications, like the sterilization of medical devices or cross-linking of polymers, has a long and successful track record and has proven itself to be a key technology. Emerging fields, including environmental applications, the sterilization of complex products, such as medical and pharmaceutical products, cultural heritage artefacts or advanced material treatment, require the design and control of even more complex irradiators and irradiation processes.

The virtual training is organized under the IAEA Technical Cooperation project RAS1024 “Reutilizing and Recycling Polymeric Waste through Radiation Modification for the Production of Industrial Goods”, which aims to strengthen regional capabilities in the application of radiation for developing value added new materials from waste polymers for industrial applications.

As it is virtual, the training has been opened to other regional participants who have interests in prioritizing the usage of radiation technologies for recycling of waste materials, reducing pollution and energy consumption. Through the cross-regional cooperation platform, optimum benefits from radiation technologies can be acquired in a cost-effective manner, in relation to the recycling of solid waste.

## **Scope and Nature**

The training course will include lectures and practical examples on the following topics: Basic reactions of polymer modification, evaluation of radiation-induced effects on polymers properties, absorbed dose Influence of constitution and configuration of polymers, influence of chemical environment during and after irradiation, polymer – irradiation – morphology – correlations Plastic chain value, mechanical and chemical recycling. Radiation technology as a complementary technology. And discussion on the following topics will be conducted: Discussion and feedback to the participants on their conceptual design of a pilot scale plant for polymer waste recycling using radiation technology.

## **Participation**

The training course is open to RER1021 participating member states.

Each country is invited to nominate more than one participant that meets the qualifications as described in the Participants' Qualifications below.

## Participants' Qualifications and Experience

The participants should be involved in radiation sciences and technologies as researchers, engineers, facility operators, or coordinators of recycling waste programmes in the country. It is encouraged to each country to nominate one participant from the research group and one candidate from the recycling waste programmes. Participation of young researchers and engineers are highly recommended

## Application Procedure

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

1. Access the InTouch+ home page (<https://intouchplus.iaea.org>) using the candidate's existing Nucleus username and password. If the candidate is not a registered Nucleus user, she/he must create a Nucleus account (<https://websso.iaea.org/IM/UserRegistrationPage.aspx>) before proceeding with the event application process below.
2. On the InTouch + platform, the candidate must:
  - a. Finalize or update her/his personal details, provide sufficient information to establish the required qualifications regarding education, language skills and work experience ('Profile' tab) and upload relevant supporting documents;
  - b. Search for the relevant technical cooperation event (EVT2102437) under the 'My Eligible Events' tab, answer the mandatory questions and lastly submit the application to the required authority.

**NOTE:** Completed applications need to be approved by the relevant national authority, i.e. the National Liaison Office, and submitted to the IAEA through the established official channels by the provided designation deadline.

For additional support on how to apply for an event, please refer to the [InTouch+ Help page](#). Any issues or queries related to InTouch+ can be addressed to [InTouchPlus.Contact-Point@iaea.org](mailto:InTouchPlus.Contact-Point@iaea.org).

Should online application submission not be possible, candidates may download the nomination form for the training course from the [IAEA website](#).

A medical certificate signed by a registered medical practitioner dated not more than four months prior to starting date of the event must be submitted by candidates when applying for a) events with a duration exceeding one month, and/or b) all candidates over the age of 65 regardless of the event duration.

## **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 who indicate their need, will receive financial support to contribute to the expenses of their costs for internet connection for the duration of the event in line with IAEA rules and procedures.

## **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.

## **IAEA Contacts**

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