



2021 RCA/KAERI Radiation Technology Training Programme

PROSPECTUS

Title:	2021 RCA/KAERI Radiation Technology Training Programme
Date:	1 – 12 November 2021
Deadline for Nominations:	<u>5 October 2021</u>
Learning Platform:	RCA E-Campus ✕ In case the learning platform is changed, notice will be given in advance.
Organizers:	RCA Regional Office (RCARO) in cooperation with Korea Atomic Energy Research Institute (KAERI)
Programme Organizers	Mr. JinKyu LIM Head, Administration RCA Regional Office Tel: +82 42 868 4905 E-mail: jklim@rcaro.org Ms. Hyun-Pa Song Project Manager Nuclear Training & Education Center Korea Atomic Energy Research Institute (KAERI) Tel: +82-42-868-2691 E-mail: hpsong@kaeri.re.kr
Administrator:	Mr. Moon-Sung Cho Principal Researcher Nuclear Training & Education Center Korea Atomic Energy Research Institute Tel: +82 42 868 2581 E-mail: mschol@kaeri.re.kr
IT Specialist:	Ms. Jinhwa KIM Project Officer RCA Regional Office Tel: +82-42-868-8224 E-mail: evolution@rcaro.org

Role of Administrator:	The role of the administrator is to manage the e-Learning programme, inspect or check the participants' learning schedule, and implement a reaction evaluation. The reaction evaluation is closely linked to the degree to which participants find the training favourable, engaging, and relevant to their jobs.
Objective:	The objective of this e-Learning programme is to transfer technical and practical knowledge on radiation policy & safety, research reactor technology, radiation technology and its applications etc. to technical or managerial professionals from target countries who are directly involved in the field of radiation application technology in government authorities, R&D institutes, and regulatory bodies.
Participation:	This training programme is open to about 30 participants from the RCA Government Parties. Each Government Party will be able to nominate two or three candidates.
Target Countries:	Bangladesh, Cambodia, China, Fiji, India, Indonesia, Laos, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Palau, Sri Lanka, Thailand, and Vietnam
Type of Learning:	The type of learning in this programme is based on e-Learning. The e-Learning utilizes internet technologies to access an educational curriculum outside the traditional classroom.
Place of Learning:	It is strongly recommended that each participant prepare a place to be absorbed in this e-Learning (e.g. at office or home, etc.). The place shall be equipped with devices (e.g. web-camera, headset, software, computer, Internet connection, etc.) necessary for e-Learning.
Language:	The language of instruction will be English.
Scope and Nature:	<p>The e-Learning programme will take place for two weeks, providing kick-off and closing meetings, 24-recorded lectures, Q&As, assignment & on-line presentation, and an achievement test. The lectures will cover the followings:</p> <ul style="list-style-type: none"> • Week 1: Introduction, Radiation Policy & Safety, Research Reactor Technology, Radioisotope Production • Week 2: Radiation Technology and its Applications, Public Communication <p>Refer to the Appendix 1 for more information.</p>
Criterion of Completion:	Attendance (30%), Achievement test (30%), Assignment and on-line presentation (30%), and Kick-off and Closing meeting (10%)
Benefits for Outstanding Participants	Participants with excellent grades will be given the opportunity to participate in the offline programme to be held in Korea in 2022. (Please kindly note that we would like to arrange and proceed with this programme when the COVID-19 pandemic situation gets better.)

Guidelines for e-Learning:

All participants will be given an ID and a password to log in to the e-Learning platform (RCA E-Campus) before starting this e-Learning programme. Learning objectives, lectures, and assignments in each subject will be provided in consecutive order when the participants “click” the subject in the e-Learning website on the platform.

While studying e-Learning subjects in this programme, all participants can or should participate in the following activities.

- **Q&A**

The participants can post their questions for each lecture at a separate section(Q&A Forum) in the RCA E-Campus LMS. The lecturer will answer the question.

- **Assignment & On-line Presentation**

The participants have to prepare and submit their country reports individually or as a group and have to send the report to the mscho1@kaeri.re.kr by 25 October, 2021. The Country Report should be prepared in English by using MS Word or PowerPoint.

Program participants have to give on-line presentations on their country reports individually or as a group. 20 minutes will be allowed for each presentation including 5 minutes of Q&A. Refer to the Appendix 2 for more information.

- **Achievement Test**

The programme organizer will upload an achievement test at a separate section in the RCA E-Campus LMS before the “Closing meeting”. The purpose of this achievement test is to ensure that participants understand the content of this e-Learning programme.

- **Kick-off and Closing meetings**

On-line Kick-off and Closing meetings will be held. The exact times for the meetings will be notified to the participants by e-mail before this e-Learning programme starts. All participants are requested to attend those on-line meetings on time.

Participants’ qualifications and experience:

Participants should be technical or managerial professionals directly involved in the field of radiation application technology in government authorities, R&D institutes, and regulatory bodies with less than 5 years of relevant experience in the field. A bachelor’s degree or equivalent experience is required. Participants should have sufficient proficiency in English to follow the lectures without difficulty.

**Application
Procedure:**

Completed application forms should be endorsed and approved by the National RCA Representatives and submitted to the below address no later than 5 October, 2021.

RCARO

Tel: +82 42 868 2777

Fax: 82 42 864 1626

E-mail: rcaapply@rcaro.org

Nominations received after this date or applications which have not been endorsed by the National RCA Representatives cannot be considered.

**Administrative
Arrangements:**

National RCA Representatives will be informed of the result of selection procedures by the RCARO and the selected participants will be given full details of the procedures to be followed with information regarding the administrative matters.

Appendix 1. Curriculum for 2021 RCA/KAERI Radiation Technology Training Programme

1. Introduction

- 1.1 Introduction to RCARO
- 1.2 Status of Radiation Industries in Korea

2. Radiation Policy & Safety

- 2.1 Nuclear Radiation Application Policy in Korea
- 2.2 International and National Framework for Radiation Protection and Safety
- 2.3 Regulatory Control
- 2.4 Radiation Protection in Radiation Installations
- 2.5 Radiation safety principles and Radiation Safety Culture
- 2.6 Radiation Emergency Preparedness and Public Acceptance

3. Research Reactor Technology

- 3.1 Overview of Research reactor ‘HANARO’
- 3.2 Neutron Instrument Development
- 3.3 Neutron Beam Application

4. Radioisotope Production

- 4.1 Radioisotopes Production with Cyclotron
- 4.2 Overview of accelerator-based radioisotope production and its applications to radiopharmaceuticals
- 4.3 Theory of radionuclide generators and future trends
- 4.4 Review of QC and QA practices as applied in radioisotope/ radiopharmaceuticals production, including specific regulatory aspects

5. Radiation Technology and its Applications

- 5.1 Medical Applications of Radiation: Radiation Oncology
- 5.2 New Trend Radiopharmaceuticals in Nuclear Medicine
- 5.3 Introduction of KAERI-ARTI
- 5.4 Application of Radiation Technology for Agriculture
- 5.5 Food Irradiation: Overview
- 5.6 Drug Evaluation using Radioisotope
- 5.7 Cyclotron and its Application
- 5.8 Radiation for Advanced Materials
- 5.9 Sealed Source Production
- 5.10 Introduction to Non-Destructive Testing

6. Public Communication

- 6.1 Communication Pathways for the General Public about Radiation

7. Country Report

- 7.1 Country Reports and Discussion

※ The above curriculum is subject to change depending on the circumstances.

Appendix 2. Assignment

Related lectures	N/A			
Practice Title	Preparation of Country Report			
Purpose	All the participants will have an opportunity to understand each other through country reports.			
Instructor	Department	KAERI Nuclear Training and Education Center	Name	Moon-Sung Cho
	Contents			
Assignment Type	Writing report			
Guideline	<p>Program participants have to prepare and submit their country reports individually or as a group and have to send the report to mscho1@kaeri.re.kr by 25 October, 2021. The Country Report should be prepared in English by using MS Word or PowerPoint.</p> <p>Topics to be covered in the country report are as follows.</p> <ul style="list-style-type: none"> - Self-Introduction, Participant's job, Participant's present position and duties in his/her organization, Participant's expectations and goals in attending this program - Brief introduction of the organization represented by the participant - Current status of nuclear energy, radiation application policy and their histories of development in your country (i.e. introduction of the project, major features, achievement, future programs, etc.) - Government organization for nuclear energy or radiation application (i.e. central government, local government, other-related organization, research institutes, universities, etc.) - Brief outline of the national policy of nuclear energy or radiation application (i.e. national goal, policy, international cooperation, etc.) - Expected cooperation with Korea in the nuclear or radioactive planning field 			
Expected outcome				
Others	<p>Program participants have to give on-line presentations on their country reports individually or as a group. 20 minutes will be allowed for each presentation including 5 minutes of Q&A. Please submit the report on time so that we can keep the schedule.</p>			