



**Training program/Workshop  
on  
Applications of Radiation Technology for Industry**

**Program Convener:**

**Dr. Lalit Varshney**

**Head, SARRT, GCNEP**

**Head, Radiation Technology Development Division  
Bhabha Atomic Research Centre, Mumbai-400085  
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**Program Dates:**

**November 14-15, 2018**

**Last Date of Registration:**

**October 31, 2018**

**Venue:**

**Global Centre for Nuclear Energy Partnership (GCNEP)  
Bahadurgarh, Haryana-124505**

**Organized by:**

**School on Application of Radioisotopes and Radiation Technologies (SARRT)  
Global Centre for Nuclear Energy Partnership  
Bahadurgarh, Haryana - 124505**

**Global Centre for Nuclear Energy Partnership (GCNEP)**, Department of Atomic Energy (DAE) is an international centre specifically built to foster international collaborations in the field of Nuclear applications. The centre started in 2010 and so far held many international and national programs. GCNEP is being developed to cater to capacity building, human resource development, education & training in the area of peaceful use of various radioisotopes and radiation technologies in addition to Development of enhanced nuclear safeguards, development of advanced, more proliferation resistant nuclear power reactors, training in Nuclear Security and Radiological Safety etc.

**School for Applications of Radioisotopes and Radiation Technologies (SARRT)** is sub- group of GCNEP which is engaged in research, development and utilization of Radioisotopes and Radiation Technology in the areas of Industry, Environment and Healthcare for societal benefits. The school facilitates utilization of radioisotopes & radiation technology for sterilization of medical products, food preservation, and development of high yielding crop seeds, waste water treatment, advanced polymers, cancer treatment, disease diagnosis & therapy, **gamma scanning for industrial radiography and tomography, tracer techniques and other similar areas.** Capacity building and skill development through the training would facilitate percolation and commercial deployment of various applications. The school under GCNEP has so far conducted many workshop/seminar/training programs in the area of peaceful use of nuclear sciences for industrialists, foreign officials, faculties, students. The school has also conducted may awareness program at village levels.

#### **About the program:**

The program envisages training/workshop for administrator/industrialist, officials from ONGC, municipal corporations, pollution control board, power plants, automobile

industry and any medium size industry having engineering set ups, Ph.D students engaged in such activities etc. The program will comprise of lectures and demonstration by experienced faculty from BARC and other DAE units. The objective of the training program/workshop is to provide first-hand knowledge of the various aspects of radiation processing, radiotracers and radiography in industry. Participants will be familiarized with basic and practical aspects about the technology. The training would mainly focus on use and demonstration of various applications of radiation and radioisotopes for industrial diagnostic including gamma radiometry; gamma and X-ray based advanced radiography and tomography imaging as well as use of radiotracers for process-related troubleshooting and optimization. Radiotracer and gamma shield sources as diagnostic tools in control of production plants/processes, process optimization in the form of performance improvement either in throughput or in product quality. There are comprehensive ranges of applications where process tomography and radiography can deliver real benefits to the end user. Industrial applications such as sludge hygienisation, medical product sterilization, will be introduced. A plenary lecture on over view of Cancer diagnostics and treatment has been arranged.

#### **Registration:**

All participants have to fill the registration form and must reach to convener before the last date **(31/10/2018)**. Participants from industries will be selected on the basis of his/her area of interest and final decision will be taken by the convener of the program. Maximum 20 participants will be chosen from the applicants as per the suitable end user from the industry/Institute.

Sort listed applicants will be informed through mail id well in advance. Participants will have to arrange transport on their own up to Bahadurgarh city and back.

## Registration Fees:

There will be no registration fee, boarding and lodging will be provided in GCNEP Guest House.

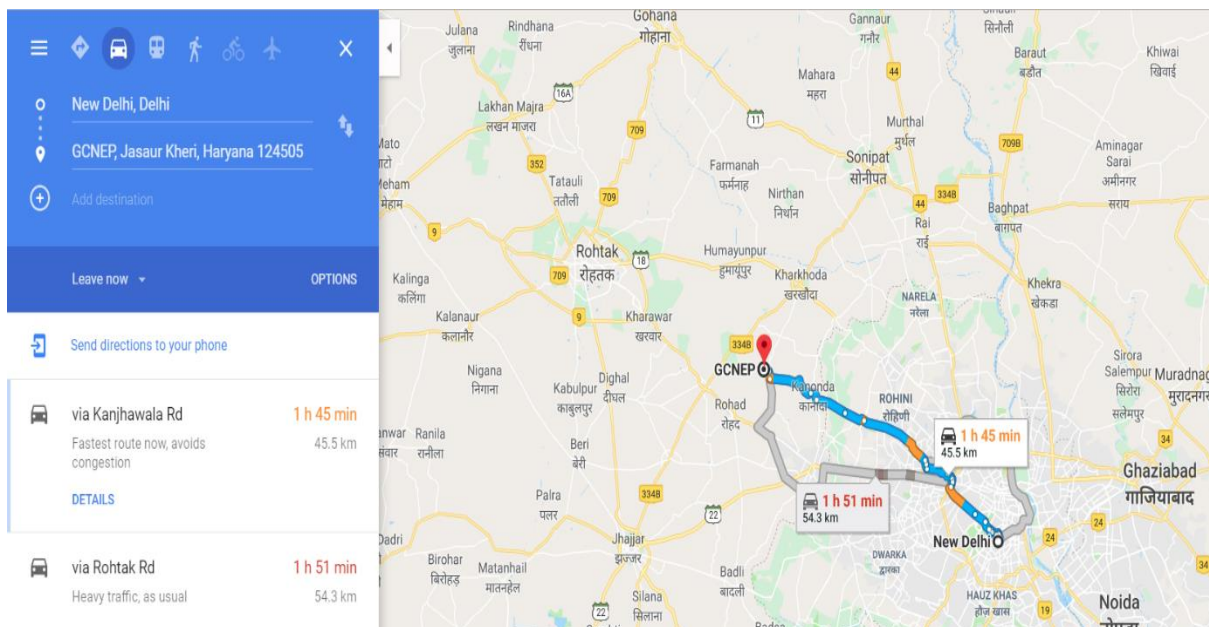
**Note: Sort listed candidates have to confirm their participation for two days compulsorily**

**Location of the centre:** GCNEP is located nearly at a distance of 55 Km from the national capital city of New Delhi. The site is approximately 7 Km from NH-10 and near to KMP Expressway. Bahadurgarh is well connected via road and Delhi Metro.

## Reaching the centre:

- 1) Via Flight: Nearest airport to the centre is Indira Gandhi International Airport (T3) for international and domestic airport is T1D.
  - a) From Airport you can avail taxi or
  - b) Take Delhi Metro to Bahadurgarh City park Metro.

## Maps for GCNEP



**Registration form**  
**for**  
**Training program/Workshop on**  
**Applications of Radiation Technology for Industry**

**November 14-15, 2018**

**Venue:**  
**Global Centre for Nuclear Energy Partnership (GCNEP)**  
**Bahadurgarh, Haryana-124505**

(Please use separate registration form for each participant)

Participant's Name :-----

Designation :-----

Organisation :-----

Area of Interest:-----

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Mailing Address:-----

City : -----

Email : -----

Telephone Number:

Office-----Residence-----Mobile-----

**Last Date for the receipt of applications: 31<sup>st</sup> Oct. 2018**

Date:

Signature of Applicant

**Program Convener:**  
**Dr. Lalit Varshney**  
**Head, SARRT, GCNEP**  
**Head, Radiation Technology Development Division**  
**Bhabha Atomic Research Centre, Mumbai-400085**  
**Tel. +91-22-25593745/3274; Email: [lality@barc.gov.in](mailto:lality@barc.gov.in)**



**“Training program/Workshop on Applications of  
Radiation Technology for Industry”**



**14-15<sup>th</sup> Nov., 2018  
GCNEP, Bahadurgarh, Haryana**

**Day 1, Wednesday Nov. 14, 2018**

**0930 - 1000**

**Registration**

**1000 - 1030**

**Inauguration Function**

- ❖ **Welcome Address:** Project Director, GCNEP
- ❖ **Opening Address:** Dr. Lalit Varshney, Head, SARRT, GCNEP
- ❖ **Vote of Thanks:** Sh. V. K. Sinha, Head, GCNEP

❖ **Group Photo**

**1030 - 1100**

**High Tea**

1100 - 1145 **L1-** Industrial Radiation Processing

Dr. Lalit Varshney

1145 - 1215 **L2a-** Radiation Sources and Conventional RT Techniques

Mr. Rajesh Acharya

1215- 1245 **L2b-** Radiation Detectors and data processing in NDT

Dr Umesh Kumar

1245 - 1315 **L3a-**Basic of Radiotracer Technology

Dr. H. J. Pant

**1315 - 1430**

**Lunch**

1430 - 1500 **L3b** Leak detection and location using radiotracer techniques

Dr. V. K. Sharma

1500 - 1530 **L4a** Limitations of Conventional RT

Mr. Rajesh Acharya

1530 - 1600 **L4b** Electronic imaging modalities

Dr. Umesh Kumar

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1600 - 1630 **L5a** Flow rate measurement using radiotracer techniques

Dr. V.K. Sharma

1630 - 1700

**Tea**

1700 - 1730 **L5b** Radiotracers applications in oil fields

Dr. H. J. Pant

1730 - 1800

**Lab Visits**

**Day 2, Thursday Nov. 15, 2018**

0930 - 1030 **L6** Plenary Talk: Overview of Recent developments and cancer care in India

Dr. Sharmila Banerjee

1030 - 1130 **L7-** Residence time distribution measurement and analysis: Case studies

Dr. H. J. Pant

**1130 - 1200**

**Tea**

1200 – 1300 **L8** CR, DR & CT for advanced NDT of specific industrial components and assemblies

Dr. Umesh Kumar

**1300 – 1400**

**Lunch**

1400 – 1500 **L9** Sediment transport investigations

Dr. H. J. Pant

1500 – 1600 Concluding Session and Certificate Distribution

