

## APPLICATION FORM

Training Programme on "Appropriate sampling techniques including sample preparation and preservation for soil, water, plant and air samples for various analyses" (6 - 11 Feb., 2017) for the Technical Personnel of ICAR

1. Full Name (in block letter):
2. Designation:
3. Present employer and address:

4. Address to which reply should be sent (in block letters):

5. Permanent Address:

Telephone No. (Off.): (Res.):

Mob No.: Fax No.:

E-mail address:

Date of Birth:

6. Sex: Male / Female

7. Professional Experience:

8. Marital Status: Married/Unmarried

9. Mention if you have participated in any training programme / workshop during past five years under ICAR / other organizations:

10. Academic Record:

Exam. Passed	Subjects	Year of Passing	Class	University/ Institution

11. Discipline:

Signature of the Applicant with Date

12. Recommendations of the forwarding Institute

Signature of the Forwarding  
Authority with Seal and Date

### Certificate

It is certified that the information furnished above is correct.  
Traveling and dearness allowances will be paid by this office.

Signature of the Sponsoring  
Authority with Seal and Date



## INFORMATION BROCHURE

### Training Programme

On

**Appropriate sampling techniques including  
sample preparation and preservation for soil,  
water, plant and air samples for various analyses**

**(February 6 to 11, 2017)**

for

**The Technical Personnel of ICAR**

**Course Director  
Dr. S.D. Singh**

**Course Coordinator  
Dr. Manoj Shrivastava**

**CENTRE FOR ENVIRONMENTAL SCIENCE AND  
CLIMATE RESILIENT AGRICULTURE  
INDIAN AGRICULTURAL RESEARCH INSTITUTE  
NEW DELHI -110 012**

### Introduction

In order to make research globally competitive, it is essential that sound analytical methodologies be adopted to achieve the research objective and to provide appropriate advisories to stakeholders on the basis of results obtained. Minimizing sampling error is the key to success of any research programme. Sample handling and storage can profoundly affect analysis results. Sampling involves the selection from the total population of a subset of individuals upon which measurements will be made; the measurements made on this subset (or sample) will then be used to estimate the properties (or parameters) of the total population. Sampling is inherent to any field research program in agricultural science because the measurement of the total population is impossible for any realistic study. The sampling methodologies for various agricultural matrices are now well developed for all kind of analysis. It is very vital for the Technical Personnel, involved in sample collection, processing and preservation; to be acquainted with the appropriate sampling methods and high precision sampling instruments associated with particular research designs and proper processing and preservation of the sample for further analysis. This course, therefore, aims to update their sampling skills and to provide them hands on experience of using high precision sampling instruments. The course is practical oriented and each lecture would be followed by practical on sampling using modern sampling instruments for air, GHG, soil, plant and water samples. Problems faced by the participants in sample collection, processing and preservation would also be discussed in depth.

## Objectives

- To familiarize the participants with the basics of the agricultural (air, GHG, soil, plant and water) sample collection, processing and preservation for various analytical purpose
- To acquaint them in various high precision sampling instruments
- To help in upgrading the capabilities and skills of the participants in various sampling techniques

## Course Contents

The course has been structured in a series of classroom lectures followed by practical in the laboratory as well as in the field. The course emphasizes on proper sampling methods of agricultural matrices (air, soil, plant and water) for minimizing the sampling error for getting correct analysis results of agricultural experiments and the use of appropriate sampling instruments. Course material will be provided to all participants. There will be ample opportunity for every participant to express his/her problems in sample collection, processing and preservation.

The main topics that would be covered are:

- Importance of sampling and sample processing
- Good laboratory practices and safety measures
- Soil Quality parameter and indices
- Soil Sample Collection and Processing
- Water quality parameters and indices
- Water Sampling, preservation and storage for various analysis
- Plant sample collection, processing and digestion
- Plant Sample preparation for biochemical analysis
- Air quality parameter and indices and air sample collection for pollution monitoring
- GHG sampling and analysis

## Venue

ICAR-Indian Agricultural Research Institute, NRL Building, Pusa Campus, New Delhi-110 012

## Duration

06 –11 February, 2017 (6 Days)

**ICAR-IARI** (<http://www.iari.res.in>)

Indian Agricultural Research Institute, popularly known as the 'Pusa Institute', is the country's premier institution for research and higher education in the field of agricultural sciences. The primary mission of the Institute is to explore new frontiers of science and knowledge and to develop human resources to provide leadership to the country in technology development and policy guidance. The Institute conducts basic and strategic research, serves as a centre for academic excellence, and provides national leadership in agricultural research, education and extension through development of new concepts, hypothesis and technologies.

**Centre for Environment Science and Climate Resilient Agriculture (CESCRA)**, a multi-disciplinary Centre is one of the youngest Centre of the IARI was established at Nuclear Research Laboratory Building on January 11, 2012. The Centre is involve in conducting basic and strategic research for environment and climate resilient sustainable agriculture with a special emphasis on rainfed and small-scale farmers, imparting post-graduate education and training on agriculture-environment inter-relationships and providing advisory and consultancy services on environment monitoring, assessment and climate change in agriculture. The Centre has advance analytical laboratories equipped with modern instruments and facilities for climate change research (FACE, OTC, TGT etc.).

The IARI is located about 8 km west of New Delhi railway station and 10 km from the Inter-State Bus Terminal. The weather in Delhi during Feb will be mild cold, with a mean maximum temperature of 20°C and mean minimum temperature of 10°C, with 65% mean RH.

## Eligibility

- Working as Technical Personnel in an ICAR Institute

## Nominations

- Interested technical personnel fulfilling the eligibility conditions may apply through proper channel.
- The participants will have to meet their TA/DA from their respective Institutes.
- Limited accommodation in IARI campus may be arranged on request on chargeable basis.

Number of participants : 30

Last date for receipt of Application: **19.12.2016**

Information to Selected Candidates: **08.01.2017**

Applications may be sent to:

**Dr. S.D. Singh**

**Head- CESCRA & Course Director**

**Centre for Environmental Science and**

**Climate Resilient Agriculture**

**Indian Agricultural Research Institute**

**New Delhi 110 012**

**Telephone Nos.: 011-25847705, 25842454(Off)**

**Fax: 011-25841490**

**Mobile: 09811927540**

**Email: sdsingh16b@yahoo.in**

**or**

**Dr. Manoj Shrivastava**

**Senior Scientist & Course Coordinator**

**Centre for Environmental Science and**

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