

ICAR-sponsored Training under HRD programme (for Scientific Staff – Online mode)

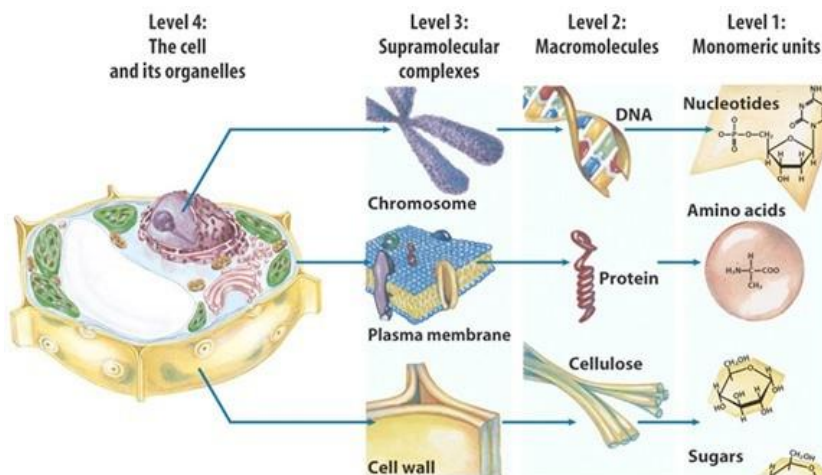
on

Tools and Techniques for Analysis of Biomolecules

(January 18-31, 2023)

Last date for application

31st December, 2023



Course Director

Dr. Aruna Tyagi

Course Coordinators

Dr. Suneha Goswami

Dr. Vinutha T



Division of Biochemistry
ICAR-Indian Agricultural Research Institute
New Delhi-110012



About the Institute

The Indian Agricultural Research Institute (IARI) is the country's premier institution for agricultural research, education and extension. It has been serving the cause of science and society with distinction through basic research, generation of appropriate technologies and development of human resources. Recognizing the importance of biochemical studies in crop research, the Division of Biochemistry was created in 1966 with major emphasis on plant biochemistry, molecular biology and nutrition. Since its inception, the Division has acquired the best research, teaching and training facilities, and take legitimate pride in being recognized as the only Centre of Advanced Faculty Training in Biochemistry in NARS by ICAR ever since 1995.

Introduction and Objectives

Crop production faces many challenges due to changing environmental conditions and evolving needs for new plant-derived materials. Biotic and abiotic stresses along with poor availability of nutrients, deteriorating soil health prevent crops from realizing their full potential. Dissecting the biochemical and molecular changes associated with these stresses is currently one of the major goals of the plant biologists all over the world. However, knowledge of various biochemical techniques for extraction, estimation and characterization of different biomolecules present in different tissues of the plants is of utmost importance in order to decipher these changes. The present training programme going to be conducted through online mode has, therefore, been designed with following objectives:

1. To impart knowledge and skill in the field of biochemistry to the scientific staff working in the ICAR institutes and SAUs.
2. To impart hands-on-training to the scientific staff, exposing them to the advanced biochemical and molecular biology instrumentation techniques for their efficient use and applications in their respective fields of concern.

The training programme will be conducted in the Division of Biochemistry, ICAR- IARI, New Delhi-110012 and duration of the course would be fourteen (14) days from January 18-31, 2023. In addition, visit to various central facilities established in ICAR-IARI such as Phenomics Facility and Phytotron facility etc. would be arranged for the benefit of the trainees.

Eligibility and Nominations

Scientific staff working in various ICAR institutes/SAUs/CAUs are eligible to apply for this training programme. Young scientists having minimum of two years of experience in the discipline of Biochemistry/Molecular Biology/Plant Biotechnology and allied sciences in agriculture are eligible. The interested candidates can apply in the prescribed format (included in this brochure). The duly filled application form, forwarded through proper channel and a scanned copy of the same may be sent at following E-mail address: trainingatbiochemistryiari@gmail.com on or before 31st December, 2022. There is a provision for 25 participants and selection would be solely based on the merit. The candidates selected for the training programme will be intimated individually by January 5th, 2023 only through E-mail. The selected candidates should have permission letter from their respective institutes.

Travel and other arrangements

TA and DA will be borne by the sponsoring institute of the trainee as per the ICAR rules. The participants should make their own transport arrangement to reach to ICAR-IARI. The program is residential and participants would be required to stay in New Delhi. Accommodation can be arranged in the Guest Houses within IARI campus depending upon the availability. (In case of non-availability of accommodation in the institute's guest houses, the candidates would be required to consult with the Course Coordinator for making arrangement in the hotels in the vicinity of PUSA campus, New Delhi, on payment basis).

Course content

The training schedule comprises of lectures and practicals from the experts in the respective fields. Following biochemical and molecular aspects would be addressed during the training programme:

- *Nutrient composition analysis using UPLC (amino acid profiling, profiling polyphenol components)*
- *Evaluation of protein quality and digestibility*
- *Protein profiling by Gel electrophoresis method*
- *Estimation of nucleic acids, PCR Amplification*
- *Assay of the enzymes involved in lipid oxidation*
- *Extraction and estimation of vitamins and minerals*
- *Estimation of antioxidants and assay of antioxidant enzymes*
- *Gene cloning and bacterial transformation,*
- *Real-Time PCR for quantitative expression analysis of gene,*
- *Evaluation of starch quality and resistant starch starch for low glycemic index*

Application Form
Training Program
On
Tools and Techniques for Analysis of Biomolecules
(January 18-31, 2023)

1. Full Name (in block letters) :
2. Designation :
3. specialization :
4. Academic Qualification :
5. Present employer & address :
6. Corresponding address :
7. Contact No. :
8. E-mail :
9. Permanent address :
10. Date of birth & age :
11. Sex: (Male/Female) :
12. Marital Status :
13. Professional Experience :

14. State how this training is going to be useful to you:

Place:

Signature of the participant

Date:

Recommendation of the forwarding Institution/Department

Date: Signature & seal

CONTACT DETAILS

Course Director:

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