

## A HANDS ON TRAINING PROGRAM ON ADVANCED MOLECULAR BIOLOGY TECHNIQUES

UNDER THE SCHEME OF  
DST-SYNERGISTIC TRAINING PROGRAM UTILIZING THE  
SCIENTIFIC AND TECHNOLOGICAL INFRASTRUCTURE  
(STUTI)

21- 27 January 2023

In Collaboration with Jamia Hamdard PMU



**ORGANIZED BY (VENUE):**

Department of Genetics and Plant Breeding  
Chaudhary Charan Singh University,  
Meerut- 250 004 (UP) INDIA

### About the Department

The Department of Genetics and Plant Breeding (formerly, Department of Agricultural Botany) was established in 1969, initially as a part of Division of Plant Sciences under the Institute of Advanced Studies. The department has a unique position in the university and is recognized nationally and internationally for its academic and research activities. The department was also awarded UGC SAP-DRS and DST-FIST programmes. The department has received more than Rs. 100 millions as research/teaching grants from various national agencies. During last 25 years, the department has become known globally for its outstanding contributions in the area of development and use of molecular markers for quantitative trait loci (QTL) analyses and understanding the genetic control of important agronomic traits in wheat and other crop plants. Presently, the emphasis is on courses related to Genetics, Crop Biotechnology, Quantitative Genetics, Bioinformatics, Molecular Breeding, Cytogenetics, etc., which also represent the core and major thrust areas of research including epigenomics.

The more recent activities involved development of molecular markers and their applications in the preparation of molecular maps, study of genetic diversity, genetic dissection of quantitative traits (grain yield, protein content, rust resistance, drought and heat tolerance, preharvest sprouting tolerance, Fe and Zn content in grains, etc.), plant parasitic nematode-wheat interaction, and marker-assisted selection involving introgression and pyramiding of genes/QTLs. As a result, the Department has identified and characterized a number of important QTLs/genes for the above traits for use in crop improvement programs, especially in wheat and developed several improved genetic stocks some of them being used by other institutions. The above studies were largely supported by the grants received from DBT, DST, UGC and ICAR.



### Importance of the Training Program

Proposed training program is highly useful for interdisciplinary research (like biotechnology, seed science, botany, plant pathology, horticulture etc.), teaching and training for all life science students and faculty member of this University and affiliated colleges. During this programme, lectures and hands on training on molecular techniques and equipment like AAS, FTIR, Real time PCR, PCR, Phase contrast microscope, Grain analyser, UV spectrophotometer etc. will be provided.

### Major Theme

- ❖ Molecular breeding for crop improvement.
- ❖ Advances in crop genomics.
- ❖ Application of nanoparticles for crop improvement.
- ❖ Use of computational and bioinformatic approaches in agricultural sciences.
- ❖ Interval mapping and genome wide association studies (GWAS).
- ❖ Biofortification and food security.
- ❖ Molecular virology

### Registration Details

In total, 30 participants (with matching research areas) will be selected for the training. There are three categories of participants;

- Doctoral Students
- Post-doctoral Researcher
- Early-career Scientist/Faculty Members

- Candidate should send their CV and recommendation letter duly forwarded by their supervisor/Mentors/Head of the Department.
- There is no registration fee for training program and it is completely supported by the DST-STUTI Program.
- Limited accommodation will be provided to outstation candidates.

Link for Registration: <https://forms.gle/esLX19ZSxo9kPJEt6>

Last Date of Registration: December 31, 2022

### Historical Places in and nearby Meerut city



SARDHANA  
CHURCH

AUGHARNATH  
TEMPLE

JAMBUDWEEP  
HASTINAPUR

CLOCK  
TOWER

### Organizing Committee

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(Hon'ble Vice Chancellor)

Organizing Convener

Prof. Shailendra Sharma  
(HoD, Dept. of Genetics & Plant Breeding)

Organizing Chairman

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(Dean, Agriculture Faculty)

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Dr. Sachin Kumar  
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Prof. Suhel Parvez,  
Dept. of Toxicology, SCLS,  
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