



Banaras Hindu University Institute of Agricultural Sciences



Summer School

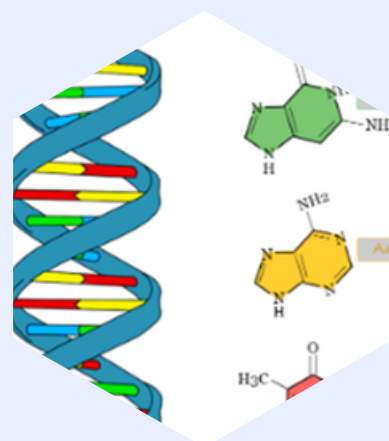
Sponsored by

U.P. Council of Agricultural Research

on

Innovative Technologies for Breeding Nutrient-Dense & Stress-Resilient Crops

September 07-16, 2026 | Varanasi



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Course Director

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Dr. P. Vijai (Plant Physiology)

Dr. Manisha Malviya (Chemistry, IIT (BHU))

**Department of Genetics and Plant Breeding
Institute of Agricultural Sciences
Banaras Hindu University, Varanasi-221005**

Banaras Hindu University (BHU) is an internationally reputed institution situated in the holy city of Varanasi. It was founded in 1916 by the great nationalist and “Bharat Ratna” awarded, Pandit Madan Mohan Malaviya Ji. The University comprises six Institutes, fourteen Faculties with 144 Departments, four Interdisciplinary Centres, a constituent college for women, and three constituent schools. It offers a wide range of subjects across all branches of humanities, social sciences, technology, medicine, science, fine arts, and performing arts. BHU has been recognized as an Institution of Eminence and an Institution of National Importance by the Government of India.

About Institute

Institute of Agricultural Sciences, Banaras Hindu University has completed its glorious journey of 93 years having significant contributions in making hunger free India. Realizing the importance of agricultural and allied sectors in Indian economy, founder of Banaras Hindu University Bharat Ratna Pt. Madan Mohan Malviyaji established an Institute of Agriculture Research in 1931. Since then, agricultural research and education became the integral part of BHU. The institute assumed different names and finally in 1981 got elevated to the status of Institute of Agricultural Sciences aiming at integration of teaching, research, extension and development in the field of Agriculture. Prior to formal establishment of Institute of Agricultural Research in 1931 at BHU, the importance of agriculture was emphasized by our founder Bharat Ratna Pt Malaviya Ji through Dharma Vidya Vigyan. Infact agriculture is treated as worship to God starting from Bhoomi Pujan to celebration of Harvest in many forms like Basant Panchami, Baisakhi etc. The foundation day of BHU, which is celebrated on Basant Panchami also has direct link with the blooming of our crops during spring season. The institute continued to discharge its mandated responsibilities of developing human resources, generating farm worthy & eco-friendly technologies and dissemination of technology to sustain and enhance the agricultural growth.

About Training Programme

Objectives: *To build capacity in molecular breeding, multi-omics, biofortification & stress resilience. Provide hands-on experience in cutting-edge crop improvement techniques.*

Background: *Climate change and hidden hunger demand nutrient-dense, climate-smart varieties. This school integrates genomics, physiology, bioinformatics, and advanced innovative phenotyping for enhancing nutrient-dense, climate stress resilient crop, by leveraging B.H.U., state-of-the-art facilities.*

KEY TOPICS TO BE COVERED

- *Molecular breeding for drought tolerance in rice*
- *Pre-breeding using crop wild relatives in Brassica juncea*
- *Integrative multi-omics for disease resistance in rapeseed-mustard*
- *Biofortification in maize for nutritional security*
- *Advanced molecular tools & techniques for selection efficiency*
- *Genomic & phenomic approaches for climate-smart crops*
- *Electrochemical biosensors & HPLC applications*
- *Physiological parameters as stress tolerance indicators*
- *Resistance breeding for major Pulse Crops*
- *Role of bioinformatics & next-generation sequencing in crop improvement*

HANDS-ON SESSIONS

- *AAS handling for heavy metal analysis*
- *HPLC for metabolite profiling*
- *Electrochemical workstation demonstration*
- *Training on Electrochemical Workstation on Biosensors*
- *Stress tolerance through physiological parameters*
- *Hands-On RNA Isolation and RT-PCR*
- *Training on Plant pathological Techniques.*
- *Analysis of Glycemic Index*
- *Speed breeding facilities*

ELIGIBILITY

Qualification: Master's Degree (M.Sc.) or Ph.D. in Genetics & Plant Breeding / Plant Biotechnology / Crop Physiology / Seed Technology / Plant Pathology / Agricultural Chemistry

Who can apply: Teachers, Research Workers, Specialists Working and Ph.D Research Scholar in SAU's/State ICAR-Institute/State CSIR-Institute /Agricultural Colleges

Number Of Seats: 25

TRAVEL & ACCOMMODATION

- *Boarding & lodging will be provided at BHU Guest House / University Hostel.(Local participants are not eligible for boarding and lodging)*
- *Travel reimbursement as per University norms.*
- *The participants will be paid for the journey, to and fro, restricted to AC-II tier train fare or bus or any other means of transport in vogue, as the case maybe, Actual TA is to be paid normally on production of travel bills by the participants. TA may be paid from the place of duty to the Summer School location and back by the shortest route.*



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APPLICATION FORM



Name:

Gender:Date of Birth:

Designation:

Degree:

E-mail:

Mobile No.:

Address:

Subject/Specialization:.....

College/Department.....

University/Institute:

Signature of Applicant:.....

Forwarding from HoD/Head of the Institution:.....

Important Dates:

- Last date for submission of Application: **July 31st 2026**
- Communication to Participants: **August 10, 2026**

All correspondence may be made to Course Director:

Dr. Jayasudha S., Assistant Professor- Genetics & Plant Breeding, I.Ag.Sc., B.H.U.

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Email: jayasudha@bhu.ac.in