



ACCELERATE
विद्यमान



HIGH-END WORKSHOP (KARYASHALA)

On

ADVANCED GENOMICS AND PHENOMICS TOOLS FOR AUGMENTING CROP NUTRITIONAL SECURITY IN HILL AGRICULTURE

(Under the Accelerate Vigyan Scheme, SERB (DST), New Delhi)

12th June – 22nd June 2024

Funded by

Science and Engineering Research Board (SERB), Department
of Science and Technology, Government of India



Organized By

Crop Improvement Division

**ICAR-Vivekananda Parvatiya Krishi Anusandhan Sansthan
Almora, Uttarakhand-263601**

Course Director

Dr. Lakshmi Kant
Director,
ICAR-VPKAS, Almora

Course co-ordinators

Dr. NC Gahtyari
Scientist (Sr. Scale)
Mob:9358044714

Co-Course Director cum Organizer

Dr. Devender Sharma
Scientist (Sr. Scale)
Mob: +91-8630502811
Email: devender.kumar1@icar.gov.in

Dr. Ramesh Singh Pal
Sr. Scientist
Mob: 8218794274

Co-Course Director

Dr. N K Hedau
Principal Scientist & Head
Crop Improvement Division

Dr. RK Khulbe
Principal Scientist
Mob: 9411324346

ABOUT THE INSTITUTE:

ICAR-Vivekananda Parvatiya Krishi Anusandhan Sansthan (VPKAS), Almora has entered the Centenary Year of its foundation in 2023. For hundred years, ICAR-VPKAS has been an institute of prime national importance in mountain agricultural research which has positively impacted livelihood of people who call the mountains home. ICAR-VPKAS, Almora with its ten decades of scientific legacy and impact is well positioned to effectively address the present and future challenges of mountain agriculture in a sustainable and holistic approach. The host Institute, ICAR-VPKAS, Almora is well known in the country for its advanced research interventions in different aspects of biofortified crops, millets and traditional pulses. It is ideally placed to undertake this workshop and to provide the expertise and skills for the applicants to successfully deliver their PG and PhD research outcomes.

ABOUT THE HIGH-END WORKSHOP (KARYASHALA):

The proposed high end workshop is designed to provide participants with a comprehensive understanding of genetic and breeding techniques utilized to enhance the nutrient and micronutrient contents in major hill crops like rice, wheat, maize, millets and pulses. The proposed workshop perfectly aligns with national, international and regional policies and plans to meet sustainable development goals (SDGs) to end hunger, achieve food security and improve nutrition. The different lectures, followed by hands on training and practical exposure to labs and fields during the proposed hands-on workshop will cover most pertinent aspects of hill crops and impart skills to young researchers. The course content of the proposed workshop is designed keeping in view the syllabi of different universities, research institutions, PG and Ph.D. research themes, and the requirement of the different R & D labs.

OBJECTIVE:

To train early career researchers/students with comprehensive techniques in advanced genomics/phenomics tools, focusing on their application to augment the biofortification programs. It will provide a deep understanding of forthcoming nutritional traits and develop proficiency in handling and integrating them into diverse crop varieties. It will also provide the exposure and opportunity to learn lab and field-based techniques and skills in handling nutritional traits in different crops.

WORKSHOP HIGHLIGHTS

- + Biofortification techniques in maize, wheat, rice, millets, vegetables and potential crops
- + Genomics and Omics Approaches in crop plants augmenting food and nutritional security
- + Prebreeding: Domestication of wild alleles for Nutritional Traits
- + Practical in DNA/RNA isolation, quantification, PCR/RT-PCR, gel electrophoresis and use of bioinformatics tools
- + Genomic data analysis, ICI mapping, TASSEL, GAPIT, Power Marker, etc.
- + Visit to maize DH facility and screening of putative haploids and colchicine treatment procedure
- + Nutritional quality trait analysis through non-destructive (FTNIR) and biochemical techniques using HPLC, GC-MS, AAS, ICP-OES and spectrophotometry
- + Visit to 'Nutri-gardens' in the farmer fields: Improving the hill farmers' dietary diversity and nutritional status.
- + Rain out shelter facility, UAV (drones) and modern imaging techniques for advanced crop phenotyping
- + Application of 'R' / statistical tools for analyzing quantitative and qualitative data

NOMINATIONS

Interested candidates fulfilling the eligibility conditions may apply through proper channel with the approval of competent authority. 25 students will be selected based on the merits/ suitability of the candidates.

WHO CAN APPLY

- + Must be a student by the time attending the workshop
- + Only students pursuing Master's Degree / Ph.D. in agriculture/life science disciplines at government/private universities colleges or institutions
- + Maximum intake: 25 students

REGISTRATION

Interested eligible candidates can register through google form link <https://forms.gle/RGzXq9kq32VfARsx5> by uploading application form duly signed by head of the Recommending Authority / Head of the Institute

IMPORTANT DEADLINES

- ✦ Last Date for Receipt of Applications: 31st May, 2024
- ✦ Intimation to Selected Candidate: 05th June, 2024
- ✦ Workshop Date: 12th June to 22th June, 2024

TRAVEL LODGING AND SUBSITANCE

- ✦ The participants will receive reimbursement for their travel expenses, including the journey to and from the event location.
- ✦ The participants will be provided travel, lodging and boarding as per SERB guidelines.

THINGS TO BRING FOR WORKSHOP

- ✦ Laptop for practical sessions
- ✦ Light clothing, umbrella and light winter wears
- ✦ Duly filled TA/DA bill with original travel vouchers/receipts/tickets.
- ✦ Original NOC from parent institute/college/department

CERTIFICATES

On successful completion of workshop, certificates will be issued by the organizing institute.

APPLICATION PROCEDURE

- ✦ No Registration Fee
- ✦ Only through google form
- ✦ Link: <https://forms.gle/RGzXq9kq32VfARsx5>

HOW TO REACH

The nearest railway station to Almora is Kathgodam. Flight service is also available from New Delhi to Pantnagar. Hawalbagh (Almora) is well connected by road *via* Pantnagar and Kathgodam

FOR QUERIES, PLEASE CONTACT

- ✦ Dr. Devender Sharma: +91-8630502811 (devenderyspuhf@gmail.com)
- ✦ Dr. Navin Chander Gahtyari: +91-9358044714 (Navinnau.pbg@gmail.com)
- ✦ Dr. Ramesh S Pal: +91-8218794274 (Ramesh.pal@icar.gov.in)
- ✦ Dr. RK Khulbe: +91-9411324346 (Rajesh.khulbe@icar.gov.in)

APPLICATION FORM

DST-SERB Sponsored High End Workshop “KARYASHALA”

On

Advanced Genomics and Phenomics Tools for Augmenting Crop Nutritional Security in Hill Agriculture

(12th June – 24th June, 2024)

1.	Full Name (in BLOCK letters)				
2.	Highest degree pursuing with specialization				
3.	Present Institute Name				
4.	Address for Correspondence				
5.	E-mail address <i>Telephone Number Mob / O / R:</i>				
6.	Date of Birth				
7.	Sex (Male/Female/other)				
8.	Education Qualification:				
	Degree	Subject	Year of passing	Class/Division/Equivalent	University/Institute
	Bachelors Masters Ph.D. Any Other				
9.	Level of Knowledge in genomics and phenomics tools				
10.	Level of Knowledge/experience in Hill Agriculture				
11.	Area of present research work				
12.	Expectations from the workshop				

Signature of the Applicant with date

CERTIFICATE

It is certified that information furnished above is correct and the candidature is being sponsored. Travel, Boarding and Lodging allowances will not be paid by this office

*Signature of the Recommending Authority/
Institute along with Seal*