



पादप रोग विज्ञान विभाग, कृषि महाविद्यालय
गोविन्द बल्लभ पन्त कृषि एवं प्रौद्योगिक विश्वविद्यालय
पन्तनगर-263 145, उत्तराखण्ड (भारत)

Department of Plant Pathology, College of Agriculture
G.B. Pant Univ. of Agric. and Technolgy, Pantnagar-263 145, Uttarakhand (INDIA)

Dr. Yogendra Singh
Professor & Head

No. CA/PLP/ 592

Dated: 26 / 11 / 2025

Subject: Nominations for Winter School on “Cutting Edge Technologies and Conventional Approaches for Plant Health Management” from March 10-30, 2026.

Dear Sir/Madam,

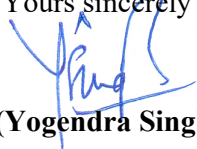
I am pleased to inform that the Department of Plant Pathology at G.B. Pant University of Agriculture and Technology, Pantnagar is organizing the ICAR sponsored 21 days Winter School on the topic “Cutting Edge Technologies and Conventional Approaches for Plant Health Management” w.e.f. March 10-30, 2026. The Winter School is specifically designed to provide precision and early detection for plant health management through cutting edges technologies while conventional approaches offer a foundation of widely used practices. Integration of both the approaches is often the most effective strategy. Teachers, researchers and supervisors of PG students having at least 2 years of teaching/research experience are encouraged to participate in the winter school. This information may kindly be widely circulated.

It is further requested to please nominate two interested faculty members (Assistant Professor/Scientist or equivalent) for the said winter school from your organization/university/institute. Nominations are to be submitted in the enclosed application form. Completed applications duly forwarded by the competent authority must reach the undersigned by **31-01-2026**. Candidates selected for the training course will be informed in due course.

Thanks and regards,

Encl.: Information brochure and application form

Yours sincerely


(Yogendra Singh)



ICAR-SPONSORED



Winter School

on

**“Cutting Edge Technologies and Conventional Approaches
for Plant Health Management”**

(March 10-30, 2026)



**DEPARTMENT OF PLANT PATHOLOGY
COLLEGE OF AGRICULTURE
G.B. Pant University of Agriculture & Technology
Pantnagar-263 145 (Uttarakhand)**

ABOUT THE DEPARTMENT

The department of Plant Pathology was created and accredited by Indian Council of Agricultural Research (ICAR) in 1961. The department took the lead in introducing the postgraduate programme leading to masters degree in 1963 and doctoral degree in 1965 in Plant Pathology. In view of the outstanding quality of teaching, research and extension work being carried out by the department, ICAR upgraded the department in the year 1995 to the status of Centre of Advanced Studies in Plant Pathology (CAS). The CAS was awarded by the education division, ICAR on August 14, 1998 with a certificate of appreciation in commemoration of Golden Jubilee year of independence (1998) for organizing the programmes for human resource development and developing excellent instructional material. ICAR further elevated CAS as Centre of Advanced Faculty Training (CAFT) in the year 2009-10. The major mandate of the CAFT is to train scientific faculty from all over the country in important and innovative areas of Plant Pathology. So far 42 trainings, with 863 participants from 27 states, have been held.

ABOUT THE WINTER SCHOOL

This training program is designed to equip faculty members/researchers/assistant professors/supervisors of PG students with advanced knowledge and practical insights into the integration of artificial intelligence, biotechnological innovations, and conventional approaches for comprehensive plant health management with a strong emphasis on contemporary and emerging aspects of plant pathology.

Artificial Intelligence (AI) is revolutionizing plant disease management by enabling rapid, accurate, and data-driven decisions to mitigate crop losses. Its integration into agriculture enhances disease detection, diagnosis, prediction, and control strategies, supporting sustainable and precision plant protection. AI-powered tools particularly deep learning and convolutional neural networks (CNNs), can identify disease symptoms from leaf, stem, or fruit images with high accuracy using smartphone apps or drones and thus helps in image based recognition like remote sensing integration and automated field monitoring. Machine Learning Models using Algorithms like Random Forests, Support Vector Machines (SVM), and Artificial Neural Networks (ANN) are used to model complex interactions among weather, crop stage, and pathogen biology to predict disease outbreaks. Another significant system is Decision Support Systems (DSS) that integrate field data, pathogen models, and weather forecasts to guide farmers in selecting timely and appropriate control measures (chemical, biological, or cultural) and also reduce pesticide misuse and support integrated disease management (IDM) practices. AI tools assist in genomic analysis and annotation of pathogens, identifying virulence genes and resistance breakdowns. They also aid in screening crop varieties for disease resistance using genomic selection and predictive breeding.

Biotechnology plays a pivotal role in advancing plant pathology by providing powerful tools for understanding host-pathogen interactions, diagnosing plant diseases, and developing effective and sustainable disease management strategies. It integrates molecular biology, genetic engineering, and omics technologies to improve plant health and crop resilience. Important molecular Diagnostic techniques of Plant Diseases such as PCR-based diagnostics like Conventional and real-time PCR (qPCR) allow for rapid and specific detection of plant pathogens (fungi, bacteria, viruses, and nematodes) even before symptom expression. Transgenic Plants: Insertion of pathogen-resistance genes (e.g., R-genes or antimicrobial peptides) into crops enhances their resistance to specific pathogens while microbial biotechnology is characterized and formulated for beneficial microbes like *Trichoderma*, *Pseudomonas*, and *Bacillus* strains into biopesticides.

The training will help the participants to gain an understanding of data-driven disease surveillance systems, application of bioinformatics and remote sensing. Furthermore, the training will highlight biosafety protocols, regulatory frameworks governing the deployment of biotechnological tools and AI associated with disease management innovations. Overall, the training aims to empower faculty members/researchers/assistant professors/supervisors of PG students to lead interdisciplinary, technology-driven approaches for sustainable plant disease management and resilient agricultural production systems.

ELIGIBILITY OF PARTICIPANTS

Teachers, researchers, supervisors of PG students with at least 2 years teaching/research experience working in SAUs, ICAR and other institutes including private ICAR-accredited Colleges/Universities are eligible. The number of participants will be limited to twenty five (25). They should have completed the prescribed probation period as per ICAR/University rules as applicable.

NOMINATIONS

The participants should apply in prescribed format (enclosed) dully filled and countersigned by the sponsoring authority should reach to the course director by 31-01-2026, positively. The selected candidates will be informed by e-mail.

TRAVEL, BOARDING AND LODGING

Participants will be paid to and fro fare by shortest route restricted to AC-II train or Bus on submission of tickets. Free boarding and lodging will be provided to participants during the training programme as per ICAR guidelines.

Course Director

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Course Coordinator

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Course Co-coordinator

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For detailed information, please visit
www.gbpuat.ac.in

APPLICATION FORM FOR PARTICIPATION IN THE WINTER SCHOOL

ON

“Cutting Edge Technologies and Conventional Approaches for Plant Health Management”

From March 10-30, 2026

Department of Plant Pathology, College of Agriculture

G.B. Pant University of Agriculture & Technology

Pantnagar-263 145 (Distt. U.S.Nagar)

1. Full Name (in block letters).....
2. Designation.....
3. Age & Date of Birth.....
4. Scale of Pay.....Sex.....
5. Marital Status.....
6. Address for Correspondence:
Department.....
Institute/University.....
City.....Pin.....State.....
Telephone No.: Office.....Residence.....
Fax No.:Mob.....
E-mail:
7. Academic Qualifications (Degree programme)

Examination	Subjects	Years	Division	University	Remarks

8. Area of specialization:
9. Honours /Award/ Fellowship etc.:
10. Experience:
 - a. Teaching (mention Plant Pathology courses taught/being taught at present with duration)
 - b. Research (mention area and length of association)
 - c. Professional (mention posts held and number of publications, enclose list)
11. Facilities available at the Institute/SAU for utilizing the training:
12. Details of trainings attended in the past, if any:
13. Need for training and how would it help in strengthening your research/teaching programme

Place:

Date:

Signature

Designation

Address (Official seal)

Recommendation of forwarding authority

Place:

Date:

Signature

Designation

Address (Official seal)