



INDIAN PHYTOPATHOLOGICAL SOCIETY

Delhi Chapter e-Symposium

**"Pathogen Profile and Pathogenesis in
Relation to Crop Disease Management"**

January 13, 2023



Organized by

Division of Plant Pathology

ICAR-Indian Agricultural Research Institute

New Delhi-110012



Invitation

We are happy to inform you that Division of Plant Pathology, ICAR-IARI, New Delhi and Indian Phytopathological Society (Delhi Zone) is organizing Zonal Symposium on "**Pathogen Profile and Pathogenesis in Relation to Crop Disease Management**" on **January 13, 2023**. The symposium will be conducted in online mode. On behalf of organizing committee, we request your gracious participation in the symposium.

About the symposium

This symposium is being conducted to provide a platform for researchers, educators, industrialists and young students to share, learn and exchange experiences, innovations, possibilities, and concerns in the field of basic and applied plant pathology.

IPS-Delhi chapter 2022 would comprise an exciting program including presidential address, invited talks and poster presentations on topics related to the recent advances in Taxonomy of plant pathogens, Host pathogen interaction, Plant disease diagnostics, Plant disease management.

Plant pathogens including fungi, bacteria, viruses and nematodes are the major constraints in crop production. Crop losses or crop failure due to plant diseases could lead to starvation, ill health and malnutrition. Therefore, crop disease management and reduction of crop losses are of paramount important for food security. Losses can be narrowed down with proper knowledge on pathogen profile and pathogenesis process. Pathogen profile includes detection, characterization, variability of the pathogen. On the other hand, understanding pathogenesis is useful to have a deep insight into the interactions between host plant and the pathogen. Depending on the levels of susceptibility (compatibility) or resistance (incompatibility) of the host plant and virulence of the pathogen, disease development may progress, either leading to symptom expression or result in the suppression of pathogen proliferation. Knowledge on pathogen profile and pathogenesis along with epidemiology could allow us to understand the vulnerable stages in the life cycles of the pathogens that can be disrupted to achieve more effective disease control.

Important Dates to Remember

Abstract submission (open)	: December 10, 2022
Abstract Submission (closing)	: December 31, 2022
Last Date of Registration	: January 10, 2023

Abstract submission

Registration and Abstract Submission should be done using the google form link:

<https://forms.gle/bQ1yA9ZhSSFx1Rjg7>

Abstract (in 300 words) should be prepared in MS Word, Times New Roman, 12 font size. Authors should see the sample abstract from below and prepare the abstract.

Abstract should be submitted latest by **December 31, 2022**.

Sample abstract format:

Functional characterization of suppressor proteins of croton yellow vein mosaic virus and its cognate betasatellite

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Croton yellow vein mosaic virus (CYVMV), a monopartite begomovirus, often associated with a betasatellite Croton yellow vein betasatellite (CroYVMB), is a prolific begomovirus-betasatellite complex in Indian sub-continent. In this investigation we functionally characterized three putative silencing suppressor proteins (V2, C2, and C4) of CYVMV and ?C1 of CroYVMB for understanding their suppressor activity, sub-cellular localization, pathogenicity determination and interaction behaviour. All these genes were amplified and cloned into suitable vector systems through gateway cloning. A GUS reporter based silencing reversal assay indicated that all these proteins have silencing suppressor activity. Sub-cellular localization study indicated V2 is localized in nuclear membrane, C4 in cell membrane, while C2 and ?C1 are located in nucleus when expressed alone. However, the localization of V2 changed and was observed in plasmodesmata when co-inoculated with the CYVMV. V2 and V1 deleted mutant virus, which was made recombinant with the reporter GFP, can effectively replicate and express GFP but cannot systemically move, indicating V2 may be involved in cell-to-cell movement of the virus in presence of V1 protein. Transient expression of each of V2, C2 and C4 proteins in *Nicotiana benthamiana* resulted in typical leaf curl symptom in systemic leaves. Further analysis through RT-PCR and confocal microscopy showed the expression of these proteins in systemic leaves, indicating that all of them act as pathogenicity determinants. Yeast-2-hybrid assay revealed none of the suppressor protein interacts with each other but V2 is capable of self- interaction. The interaction result was also confirmed through *in planta* BiFC assay. As the suppressor proteins acted as major pathogenicity determinant, RNAi based strategies may be undertaken to inhibit these proteins, resulting in virus-resistant plants.

Points to be noted before submission of abstract

- Submission of abstract will not ensure automatic acceptance
- Contents will be edited as per requirement
- Abstract should be based on the recent work done by the author(s)

Guidelines for poster presentation

- The posters can be presented in the format of power point (Max. 5 slides)
- Duration for the presentation will be 3 minutes + 2 min discussion

Souvenir cum abstract

An e-Souvenir cum abstract of the Symposium will be brought out and distributed among all the delegates attending the symposium.

Award Competition

Prof MJ Narasimhan Academic Merit Award Contest

The contest is open to all the members of IPS under thirty-five years of age. Eligible candidates from Delhi Zone who are interested to participate in this contest should send abstracts (not exceeding 500 words) of the research paper to the Society latest by 31st Dec. 2022. The abstracts of papers will be evaluated by a preliminary screening committee and two names will be recommended from zonal level for the final contest at national level in the Annual Meeting cum National Symposium of the Society. The authors should also send the following certificate with the abstract.

To Whom It May Concern	
It	is to certified that the paper entitled “
.....presented for Prof. M.J. Narasimhan Merit Academic Award contest for the year (.....) pertain to the major work done by the candidate It is further certified that the work has not been published and presented for any other award till date and contestant is below the age of 35 and member of the Society.	
Signature of student	Chairman/Advisor/Guide of the student
Forwarded by Zonal President/Councillor	

The following are the rules and regulations for the awards

1. The award will be given to the best paper presented at Annual Meeting of IPS.
2. All the contestants/recipients must be member of the IPS and under the age of 35 years.
3. The awards will be judged by a committee appointed for the purpose and their decision will be final.
4. The certificate for the award will be given only to the person presenting the papers.
5. The recipient of an award will be considered for subsequent awards only after a lapse of two years.
6. If the work presented relates to a thesis or award of any degree, the concerned student should present the work and not the guide even though he/she may also be below the age of 35 years.
7. Preference would be given to work carried out under Indian conditions.
8. The time for the presentation shall be 15 (12+3) minutes.

APS-IPS travel award for PhD students

APS Travel Sponsorship for Students was instituted. The purpose of this award is to encourage plant pathology students pursuing a doctoral degree in India, who are members of IPS, to attend the APS Annual Meeting or other APS sanctioned meeting if deemed appropriate by the Indian Phytopathology Society and APS Foundation Board. The award has been established with contributions from Plant Pathologists of Indian Origin. Students will compete at the zonal competitions in India, and the awardee will be chosen from the top student presenters at these zonal competitions.

The terms and conditions for participating in APS meeting is as follows:

- The fund will reimburse the awardee directly by APS for return airfare from India to the meeting venue, accommodation and incidentals.
- The awardee is expected to bear the cost of meeting registration.
- There will be no financial liability of the IPS.
- All the contestant/recipients should be the member of the Society during the year of presentation.
- The contestants will have to give a brief biodata, the certificate furnishing the age proof and proof of pursuing Ph.D. (First to Third year only) and one page a short paragraph, stating how participation in the APS meeting will lead toward achievement of their professional goals.
- The award will be given to the best paper presented at Annual Meeting of IPS.
- The awards will be judged by a committee appointed for the purpose and their decision will be final.
- The award will be given only to the Ph.D. Student presenting the paper.
- The time for the presentation shall be 15 (12+3) minutes.
- In service candidates are not eligible for this APS travel award

Organizing Committee

Chairperson

Dr. Robin Gogoi, Head, Division of Plant Pathology, IARI, New Delhi

Convener & Organizing Secretary

Dr. Bikash Mandal, Principal Scientist and President IPS, (Delhi Zone), Division of Plant Pathology, ICAR-IARI, New Delhi-110 012

Co-Organizing Secretary

Dr. Anirban Roy, Principal Scientist and Councillor IPS (Delhi Zone), ICAR-IARI, New Delhi-110 012

Advisory Committee

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Dr. T.R. Sharma, DDG (Crop Science), ICAR, New Delhi

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Dr. R.K. Jain, Former Dean, IARI, New Delhi

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Dr. Dinesh Singh, Former Secretary, IPS, New Delhi

Dr. Kalyan Kumar Mondal, Joint Secretary, IPS, New Delhi

Dr. Malkhan Singh Gurjar, Treasurer, IPS, New Delhi

For further details, please contact

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