



fusarium
2025



International Fusarium Laboratory Workshop

02-07 November 2025

Organised By

National Fungal Culture Collection of India (NFCCI-WDCM 932)

**Agharkar Research Institute (MACS),
GG Agarkar Road, Pune 411004, INDIA**

Website: <https://www.aripune.res.in>

&

ICAR-National Bureau of Agriculturally Important Microorganisms (NAIMCC-WDCM 1060)

Kushmaur, Mau 275 103 , UP, INDIA

Website: <https://www.nbaim.icar.gov.in>

Co-organiser



Asia-Pacific Association of

Agricultural Research Institutions (APAARI)

**182 Larn Luang Road, Khlong Mahanak
Pomprab Sattrupai Bangkok, THAILAND**

Website: <https://www.apaari.org>

Venue

Agharkar Research Institute (MACS)

GG Agarkar Road, Pune 411004

Maharashtra, INDIA

<https://www.aripune.org>



ARI-MACS-estd.1946

ABOUT FUSARIUM WORKSHOP

This workshop will be led by internationally recognized *Fusarium* experts. Participants will gain hands-on experience with standard morphological, genetic, and molecular biological techniques used for identifying and characterizing *Fusarium* strains important in various sectors like agriculture, medical and other allied sectors. Participants will learn to identify *Fusarium* species using morphological traits, conduct vegetative compatibility group (VCG) and cross-fertility assays; perform DNA extraction, PCR amplification, and DNA sequence analysis and phylogeny. Workshop will be dedicated to the hands on laboratory work using standard strains.

REGISTRATION

To secure a spot, a nonrefundable registration fee USD 100 (foreign participants) and INR 5000 (Indian participants) is required at the time of registration. Registration is considered complete only after full payment is received by **September 30, 2025**. After this date registration will be accepted only, if space permits. Enrollment is limited, and virtual attendance is not an option due to the hands-on laboratory work.

Registration Fee

Foreign Participants: US\$ 1,500

Indian Participants: INR 42,000

[inclusive of taxes-GST@18%]

Note: Registration fee includes workshop materials, laboratory manual, workshop food (lunch & dinner), lab supplies, a certificate of participation, refreshment breaks, and transportation from hotel/guest house to laboratory at ARI and back each day during workshop

Payment from foreign participants must be received in US\$. Wire charges, service charges and other bank fees are the responsibility of the registrant, not the workshop organizers. Write to Coordinator for bank details at sksingh@aripune.org

CANCELLATION

If you need to cancel your registration, please do so as soon as possible. Substitutions are allowed. Registration fees will be refunded, minus a US\$100 deposit for Foreign Participants and INR 5000 for Indian Participants provided, will be refunded, if the Workshop Registration Office receives a cancellation request by **5.00 PM (IST) on September 30, 2025**. After this date, refunds cannot be issued due to financial commitments. No refunds will be granted to registered participants who fails to attend and do not notify workshop coordinator, **Dr. Sanjay K. Singh** by the cancellation deadline. Organizers and the workshop coordinator reserve the right to cancel or postpone any course or activity due to low enrollment, regulatory or unforeseen circumstances. In such cases, registration fees will be refunded; however, organisers and workshop coordinator are not responsible for additional costs, such as airline or travel agency cancellation/change fees.

If the workshop proceeds as scheduled, registration fees will not be refunded for participants unable to attend due to travel delays, inclement weather, or extraordinary circumstances beyond organisers's control, including COVID-19 and other similar events, etc.

ACCOMMODATION

Accommodation will be arranged for registered participants in nearby hotel/guest house on request. Participants are advised to contact coordinator, Dr. Sanjay K. Singh to confirm the available accommodation options and associated charges.

Participants are responsible for all transportation costs, including visas, to and from Pune (INDIA) and for their accommodations and meals, except those noted earlier, while they are in Pune (INDIA) as registered participants.

Head of Institutions and Lead Instructors

Dr. Prashant K. Dhakephalkar (PKD)
Director (Head of Institution),
Agharkar Research Institute (MACS),
GG Agarkar Road, Pune- 411004, INDIA
**Over 30+ Years of experience in microbial diversity, Bioenergy and Industrial Applications*

Dr. Alok Srivastava (AS)
Director (Head of Institution)
ICAR-National Bureau of Agriculturally
Important Microorganisma (NBAIM),
Mau-275103, UP, INDIA
**Over 30+ years of experience in microbial diversity, Genomics, various applications & conservations*

Dr. Ravi Khetarpal (RK)
Executive Director APAARI and Chair GFAiR
Asia-Pacific Association of Agricultural
Research Institution (APAARI),
182 Larn Luang Road, Bangkok-10100 THAILAND
**Over 40+ years of experience in detection, epidemiology of plant viruses, quarantine, biosecurity, biosafety and related policy*

Professor John F. Leslie (JFL)
University Distinguished Professor
Department of Plant Pathology,
Kansas State University, USA
**Over 40+ years of experience with *Fusarium* genetics and population analysis*

Professor Antonio Logrieco (AL)
Emeritus Director
Institute for the Science of Food Production,
National Council of Research (CNR-ISPA), ITALY
**Specializes in epidemiology, taxonomy, and molecular/chemical characterization of toxigenic *Fusarium* species*

Professor David Geiser (DG)
Department of Plant Pathology
Director *Fusarium* Research Center
Pennsylvania State University, USA
**Over 25 years of experience with molecular evolution of fungi and fungal population genetics*

Note

If you require a visa to enter INDIA or need a letter of invitation to attend the workshop, please contact the Coordinator. The letter of invitation will be sent to you by email.

..... Lead Instructors

Professor Brett Summerell (BS)
Director of Science and Conservation
Royal Botanic Garden Sydney, AUSTRALIA
**Over 30+ years of experience with the taxonomy, identification, and description of *Fusarium* species and the plant diseases caused by these fungi.*
*Co-authored 2 lab manuals on *Fusarium* identification*

Dr. Ranajit Bandyopadhyay (RB)
Emeritus Scientist and Co-Founder
Africa-wide Aflasafe Initiative,
International Institute of Tropical Agriculture
(IITA-CGIAR Institute)
**Over 40+ years of experience on toxigenic fungi & their management system centered on biocontrol*

Get In Touch

*Workshop Coordinator (SKS)
for registration & other information*

*Emails
nfcci.workshop@gmail.com
sksingh@aripune.org*

Lead Instructors

Professor S. Chandra Nayaka (CN)
Professor & Officer In-Charge
ICAR (AICRP-Mysore centre)
Pearl Millet Pathology Laboratory
DOS in Applied Botany and Biotechnology
University of Mysore, Manasagangotri,
Mysuru -570006 Karnataka, India
**Over 25+years of experience of fungal pathogens disease epidemiology & characterisation of *Fusarium* strains.*

Dr. Sanjay K. Singh (SKS), Scientist G
Coordinator & Curator
National Fungal Culture Collection of India
Agharkar Research Institute, GG Agarkar Road
Pune 411004, Maharashtra, INDIA
**Over 25+ years of experience in fungal biodiversity, taxonomy, systematics, identification, conservation & industrial applications of fungi*

Dr.V.Koteswara Rao (KR), Senior Scientist
Biochemical Sciences Division
CSIR-National Chemical Laboratory
Dr.Homi Bhabha Road, Pune-411008
Maharashtra, INDIA
**Over 20+ years of experience in fungal secondary metabolites (including toxins), their detection and characterisation*

Note: Along with lead instructors, following experienced scientists & technical staff at the National Fungal Culture Collection of India (NFCCI) will be available to assist with all laboratory work and provide local support to ensure the success of the workshop:

Dr. Sanjay K. Singh (SKS), Scientist G (Coordinator)
Dr. Rajeshkumar KC (RKC), Scientist E
Dr. P.N. Singh (PNS), Scientist E
Dr. Nischitha R. (NR), Scientist B
Dr. Shiwali Rana (SR), Scientist B
Mr. S.B. Gaikwad (SBG), Technical Officer
Mr. Deepak Maurya (DM), Lab Assistant D
Ms. Sneha Shinde (SS), Lab Assistant D

Register
NOW

Last date of Registration
30 September 2025

Website:
<https://www.aripune.org>

Workshop Calendar

Sunday November 02, 2025

Check into hotel/guest house and collect workshop kit available at the reception desk.

06:00 - 08:30 pm Social hour and Dinner



Contact Workshop Coordinator
nfcci.workshop@gmail.com
sksingh@aripune.org



Phone +91 20 25325103
Cell: +91 9552709158

Monday November 03, 2025

09:00 am Welcome to India-ARI Pune -PKD
09:10 am Welcome & About NFCCI-SKS
09:15 am Welcome and Intro to Workshop- JFL
09:25 am Introduction to *Fusarium*-JFL (Lecture)
10:00 am Sequence Based Identification of *Fusarium*-DG (Lecture)

10:30 am Coffee Break (and group photo)
10:45 am One-minute participant introductions
11:30 am Introductory Labwork
Morphological Characteristics
Sequence-based identification

01:00 pm Lunch (arranged at ARI)
01.30 pm Tropical Seed-borne *Fusarium* Diseases-CN (Lecture)
02:00 pm Temperate *Fusarium* Diseases-BS (Lecture)
02:45 pm *Fusarium sambucinum* species complex Part I-AL

03:30 pm Coffee Break
03:45 pm Isolate Recovery & Purification-SKS (Lecture)
04:15 pm Single Spore Isolation (Labwork)
Soil Dilution and Fungal Isolation (Labwork)
Fusarium sambucinum species complex Part I- (Labwork)
Fusarium crookwellense/cerealis
Fusarium culmorum
Fusarium graminearum
Fusarium pseudograminearum
Fusarium sambucinum
Fusarium venenatum

05:45 pm End of Session

Tuesday November 04, 2025

09:00 am *Fusarium* Genetics and Genomics - JFL (Lecture)
09:45 am Trichothecenes & Zearalenone-KR (Lecture)

10:30 am Coffee Break
10:45 am Vegetative Compatibility-JFL (Lecture & Labwork)

01:00 pm Lunch (arranged at ARI)
01:30 pm Strain Preservation and Conservation-SKS (Lecture)

02:00 pm *Fusarium oxysporum*/F. *solani* species complexes & basal Lineages- DG (Lecture)
02:45 pm Single Spore Isolation- Laboratory Follow-up
F. oxysporum/F. *solani* species complexes and basal Lineages
Fusarium oxysporum, F. *solani*, F. *ambrosium*
Fusarium babinda, F. *beomiforme*, F. *burgessii*
Fusarium concolor, F. *lyarnte*, F. *nisikadoi*
Fusarium redolens, F. *virguliforme*, F. *verrikimbe*

03:30 pm Coffee Break

03:45 pm Preservation Techniques (Labwork Follow-up)
Fusarium oxysporum/F. *solani* species complexes and basal Lineages Observation (Labwork..... Continued)

05:45 pm End of Session

Workshop Calendarcontd.

Wednesday November 05, 2025

09:00 am *Fusarium fujikuroi* species complex-BS (Lecture)

09:45 am Fumonisin & Other Mycotoxins -VB (Lecture)

10:30 am Coffee Break

10:45 am Mycotoxin detection- VB, RB, KR (Lecture & Labwork)

01:00 pm Lunch (arranged at ARI)

01:30 pm *Fusarium* Plant Pathogenicity Mechanisms - AS (Lecture)

02:15 pm *Fusarium* DNA Analyses Beyond TEF-DG (Lecture)

03:00 pm DNA Sequence Analysis (Labwork)

Fusarium fujikuroi (Labwork)

Group A (must look at these)

Fusarium circinatum, *F. globosum*, *F. nygamai*

Fusarium proliferatum, *F. subglutinans*,

Fusarium thapsinum, *F. verticillioides*

Group B (should look at these)

Fusarium andiyazi, *F. fujikuroi*, *F. mangiferae*

Fusarium sacchai, *F. succisae*, *F. xylarioides*

Group C (for the aficionado)

Fusarium acutatum, *F. anthropophilum*, *F. begoniae*

Fusarium brevicatenuatum, *F. bulbicola*, *F. concentricum*

Fusarium denticulatum, *F. dlamini*, *F. guttiforme*, *F. konzum*

Fusarium napiforme, *F. phyllophilum*, *F. pseudonygamai*

Fusarium pseudoanthophilum, *F. pseudocircinatum*, *F. ramigenum*

Fusarium sterilihyphosum, *F. tupaense*

03:30 pm Coffee Break

03:45 pm Session Continued (Labwork)

05:45 pm End of Session

Thursday November 06, 2025

09:00 am Tropical *Fusarium* species & diseases -CN (Lecture)

09:45 am Mating Type-JFL (Lecture)

10:30 am Coffee Break

10:45 am *Fusarium sambucinum* Part II & *F. tricinctum* species complexes- AL (Lecture)

11:30 am Mating Type -Set up PCR reactions (Labwork)

Fusarium sambucinum Part II & *F. tricinctum* species complexes-

Fusarium acuminatum, *F. heterosporum*, *F. sporotrichioides*

Fusarium armeniacum, *F. langsethiae*, *F. torulosum*

Fusarium avenaceum, *F. longipes*, *F. tricinctum*

Fusarium compactum, *F. poae*

01:00 pm Lunch (arranged by ARI)

01:30 pm Population Genetics & Problem solving - JFL (Lecture)

02:30 pm *Fusarium incarnatum* species complexes-BS (Lecture)

03:20 pm Mating Type Laboratory - Load gels (Labwork continued)

Fusarium incarnatum species complexes (Labwork)

Fusarium chlamydosporum, *F. decemcellulare*, *F. dimetum*

Fusarium equisetii, *F. incarnatum*, *F. lateritium*, *F. nelsonii*, *F. scirpi*

03:30 pm Coffee Break

03:45 pm Labwork.... Continue

Evaluate Mating Type gels - DG, AL, SR & DKM

05:45 pm End of Session

08:30 pm Workshop Dinner

Friday November 07, 2025

09:00 am Human Impacts of *Fusarium*- (Lecture)

09:45 am Current Issues in *Fusarium* Taxonomy & Nomenclature-DG (Lecture)

10:30 am Coffee Break

10:45 am Social Impacts of Mycotoxin -RB (Lecture)

11:30 am Icebergs Ahead-BS (Lecture)

12:00 Noon Workshop evaluation, distribution of certificates- All instructors

End of Workshop

12:30-01:00 pm Lunch (at ARI)