

DST-FIST Sponsored



One day training programme on
Molecular Techniques
From Basics to Applications
24.01.2025

Organized by
Department of Plant Breeding & Genetics
Pandit Jawaharlal Nehru College of
Agriculture and Research Institute
(PAJANCOA & RI)
Karaikal – 609 603



Program Overview

To equip participants with essential skills and knowledge in molecular biology techniques, focusing on DNA/RNA handling, PCR, RT-PCR and electrophoresis analysis. This hands-on session will provide you with both theoretical knowledge and practical skills, giving you the tools needed to apply molecular biology techniques to your own research and projects.

Programme Schedule

Session 1: Introduction to Molecular Techniques

- Overview of molecular biology and its applications
- Key concepts: DNA/RNA, proteins, and molecular workflows

Session 2: DNA/RNA Extraction and Quantification

- Hands-on demonstration of DNA/RNA extraction methods
- Measurement and purity assessment using spectrophotometry
- Troubleshooting tips for common problems

Session 3: Polymerase Chain Reaction (PCR)

- Principles and components of PCR
- Preparation of PCR reaction mixtures
- Running PCR on a thermal cycler
- qPCR and reverse transcription-PCR

Session 4: Gel Electrophoresis and Visualization

- Overview of gel electrophoresis
- Preparation of gels and loading
- Running and visualizing gels under UV
- Interpretation of results

Session 5: Data Analysis and Troubleshooting

- Analyzing gel electrophoresis results.
- Interpreting PCR data (e.g., amplification curves for qPCR)
- Troubleshooting common issues

Session 6: Applications of Molecular Techniques

- Real-world applications of molecular techniques
- Emerging trends in molecular techniques (e.g., next-gen sequencing, CRISPR)

Organizing Committee

Patronage

Dr. A. Pouchepparadjou
Dean-cum- PI of DST-FIST Project

Coordinator

Dr. S. Thirumeni
Professor & Head (PBG)

Training Organizers

Dr. V. Vengadessan Assistant Professor (PBG)	vengadessan@gmail.com Mob: 9489153074
Dr. T. Anandhan Assistant Professor (C)	anandgene@gmail.com Mob: 94878 29426

Registration Fee: Nil

Registration for the training program can be done through the below Google Form link.

<https://forms.gle/iteRRRgcAKEaNNdh6>

Last Date for Registration: **19.01.2025**

For further details regarding the program, please contact the Training Organizers.

PAJANCOA & RI
DBT-STAR & DST-FIST Sponsored Institute

Approved, Accredited. and Affiliated with



**Pandit Jawaharlal Nehru College of Agriculture and Research Institute
Karaikal – 609 603**

No.PBG/DST-FIST Project/IRD/Training/ 2025

Date: 09.01.2025

CIRUCLAR

Sub: PBG -DST-FIST - IRD activities - Training on Molecular Techniques – Reg.

Ref: DST-FIST Sanction Order No. SR/FST/COLLEGE-/2023/1467(G) dt. 27.02.2024

It is proposed to organize one day training programme on **Molecular Techniques: From Basics to Applications** in the Department of Plant Breeding and Genetics, PAJANCOA & RI. This training program will be conducted on 24.01.2025 under the Industrial R&D Support (IRD) component of the DST-FIST grant and aims to provide participants with both theoretical knowledge and hands-on training in essential molecular techniques.

The program will be organized under the patronage of Dean-cum-Principal Investigator (PI) of the DST-FIST Project, Dr. A. Pouchepparadjou. The following members have been nominated to coordinate and organize the training program:

Training Coordinator : Dr. S. Thirumeni, Professor & Head (PBG)

Training Organizers : Dr. V. Vengadessan, Assistant Professor (PBG)

: Dr. T. Anandhan, Assistant Professor (C)

The training is designed to benefit research scholars, postgraduate students, and faculty members by equipping them with advanced molecular techniques applicable in plant breeding, crop improvement, and genetic research. The program will also serve as a platform for researchers from other colleges and institutions to gain knowledge, exchange ideas, and establish collaborations.

To maximize the impact and reach of this initiative, it is further requested that the brochure for the training program be widely circulated among students, faculty members, and personnel involved in R&D activities in colleges and research institutions.

Registration for the training program can be completed through the **Google Form link** provided in the brochure. For further details regarding the program, please contact the training organizers.


DEAN 9/1/25