

**A Report on three weeks “Summer Internship Training”  
5<sup>th</sup> - 23<sup>rd</sup> June, 2023 at  
ICFRE-Institute of Forest Genetics and Tree Breeding, Coimbatore.**

The ICFRE-Institute of Forest Genetics and Tree Breeding, Coimbatore organised three weeks “Summer Internship Training” during 5<sup>th</sup> to 23<sup>rd</sup> June, 2023. Thirty three post graduate students of Biotechnology, Biochemistry, Botany, Zoology, Applied Microbiology and Environmental Science from various universities viz. Bharathiar University, Coimbatore; Bharathidasan University, Trichy; University of Madras, Chennai; St. Joseph’s University, Bengaluru and from various colleges: PSG College of Arts & Science, Coimbatore; Dr. NGP Arts and Science College, Coimbatore; Shri Nehru Maha Vidyalaya College of Arts And Science, Coimbatore; Dr. G. R. Damodaran College of Science, Coimbatore and Vivekananda College of Arts and Sciences, Tiruchengode participated. The training module was framed to update the student’s knowledge on various aspects of forestry namely Genetics and Tree Breeding, GIS and Remote Sensing, Forest Genetic Resource Management, Microbiology, Forest protection, Soil and Plant Analysis, Molecular Markers, Bioprospecting, Biostatistics and Scientific writing skills.

The training was inaugurated on 5<sup>th</sup> June, 2023. Dr. Rekha R. Warriar, Scientist -F & Head, Chemistry and Bioprospecting Division welcomed the gathering followed by self introduction of the student participants. The training coordinator Dr. N. Senthilkumar, Scientist -F gave an overview of the training module. He also informed that ample opportunities are available for skilled students in forestry research as JRFs and may pursue Ph.D as well. Dr. R. Yasodha, Scientist- G and Group Coordinator Research briefed the importance of the training module and she also stated that it was a great opportunity for the students to update their skill in a multidisciplinary approach. The Director Dr. C. Kunhikannan in his inaugural address stated that this training would be a turning point for the students who opt for forestry research and grow further. He also insisted that the training should be interactive and asked the student participants to utilize this platform to upgrade their knowledge and skills beyond their academic knowledge.

Students were given inputs on various fields of forestry research under 12 different modules. Various aspects of tree breeding such as selection of plus trees, assemblage of germplasm, CSO, SSO, SPA, clonal bank, tree breeding and productivity enhancement were dealt in **Genetics and Tree Improvement module**; basics of remote sensing and GIS; practical application of GPS and demonstration of application of QGIS under **GIS & Remote sensing module**; forest genetic resource management and seed handling techniques under **Forest Genetics Resource Management module**; Mycorrhizal Fungi – Isolation, Identification and Mass Production Methods (Biofertilizer production), identification and multiplication techniques of beneficial bacteria/growth promoting microorganisms under **Microbiology module**; insect identification and pest control measures under **Forest Protection module**; soil sampling, methods of sampling, processing of soil samples, determination of soil properties such as pH, EC, OC, available nutrients, plant sampling, analysis, interpretation of analytical results under **Soil and Plant analysis module**; Molecular techniques such as DNA isolation, DNA markers etc. under **Molecular Markers module**; collection and processing of plant samples, extraction, fractionation using column chromatography and

Thin Layer Chromatography (TLC), and characterization, identification of bioactive active compounds using UV Spectrophotometry, HPLC, and GC/MS/MS, evaluation of bioactive principles for biological properties under **Bioprospecting module** followed by experimental design, data collection, analysis using appropriate statistical tools and scientific report/paper writing under **Research methods, Biostatistics and Scientific writing module**. They were provided hands on training to handle advanced instruments.

The Director, Dr. C. Kunhikannan had an interactive session with the students on **“Introduction to Environmental Conservation”** on 19<sup>th</sup> June, 2023. During the session, he explained about nature’s role in sustaining living organisms. The resource persons involved in this internship training include and Dr. R. Archana, Scientist-B (**Genetics and Tree Improvement**), Dr. A. Rajasekaran, Scientist-F (**GIS & Remote sensing**), Dr. A. Anandhalakshmi, Scientist-F (**Forest Genetic Resource Management**), Dr. A. Karthikeyan, Scientist-G (**Microbiology**), Dr. K. N. Ashrith, Scientist-B (**Forest protection**), Dr. A.C. Surya Prabha, Scientist-D (**Soil and Plant analysis**), Dr. N. Senthilkumar, Scientist-F (**Bioprospecting**), Dr. D. Thangamani, Scientist-D (**Molecular markers**), Dr. R. Archana, Scientist-B (**Research methods and Biostatistics**) and Dr. Rekha Warriar Scientist-F (**Scientific writing**) and the research officials Mrs. K. Shanthi, CTO, Mrs. R. Sumathi, CTO, Mrs. S. Lalitha, CTO, Mrs. B. Sunitha, CTO, Mrs. S. Geetha, ACTO, Mrs. K. Sushamani, TO, Mrs. M.V. Vineetha, STO, Shri K. Suresh Kumar, TO, Shri S. Pragadeesh, TA, Ms. Srijita Ganguly, TA, Shri S. Muthupandian, TA, Shri S.S. Abhijith, Technician and research scholars.

The three weeks internship ended with a valedictory session on 23<sup>rd</sup> June, 2023. The student participants made a brief presentation on the modules and various activities covered during training. The training coordinator Dr. N. Senthilkumar, Scientist- F presented a short report on internship training. He added that the training provided platform to develop skilled personalities which the industries are looking for. Dr. C. Kunhikannan, Director ICFRE-IFGTB, stated that the training might have ignited research interest in students and he also motivated the students to learn research techniques for knowledge improvement and skill development for righteous life. Student participants opined that the training module was appropriate for their current academic and future research endeavour. The Director distributed participation certificates to internship trainees followed by the formal vote of thanks by Smt. R. Sumathi, Students Coordinator.



**Dr. C. Kunhikannan, Director addressing the participants**



**Dr. R. Yasodha, GCR addressing the participants**



**Dr. C. Kunhikannan, Director's interactive session with the students on "Introduction to Environmental Conservation"**



**Dr. R. Archana, Scientist-B detailing Genetics & Tree improvement**



**Dr. A. Rajasekaran, Scientist-F detailing GIS & Remote Sensing**



**Dr. A. Anandhalakshmi, Scientist-F detailing FGRM**



**Dr. K. N. Ashrith, Scientist-B detailing pest control measures**



**Dr. Rekha Warriar, Scientist-F detailing report writing**



**Dr. N. Senthilkumar, Scientist-F detailing Bioprospecting**



**Dr. A. Karthikeyan, Scientist-G detailing Microbiology**



**Dr. D. Thangamani, Scientist-D detailing Molecular markers**



**K. Shanthi, CTO demonstrating vegetative multiplication**



**S. Geetha, ACTO demonstrating seed handling**



**S. Pragadeesh, TA demonstrating soil analysis**



**K. Sushamani, TO demonstrating Microbiology**



**K. Suresh Kumar, TO demonstrating FGRM**



**Student participants exploring equipments**





The Director Dr. C. Kunhikannan distributed the certificates to student participants



Student participants