

**A Report on four weeks  
“Summer Internship Training”**

**13<sup>th</sup> May– 6<sup>th</sup> June, 2019**

at

**Institute of Forest Genetics and Tree Breeding, Coimbatore.**

Four weeks Summer Internship training has been conducted in **Institute of Forest Genetics and Tree Breeding, Coimbatore** during **13<sup>th</sup> May, 2019 to 6<sup>th</sup> June, 2019**. Thirteen students of B.Tech, undergraduate and post graduate Biotechnology, Biochemistry and Microbiology disciplines from various colleges viz., PSG College of Arts & Science, Coimbatore; Dr.NGP Arts and Science College, Coimbatore; SRM Arts & Science, Kanchipuram and Karunya Institute of Technology & Sciences, Coimbatore; and Universities especially Pondicherry University and Periyar University, Salem participated in the training. The training module included Genetics and Tree Improvement, Microbiology, GIS & Remote Sensing, Forest Genetics Resource Management and Seed Science, Research Methods, Biostatistics and Scientific writing, Plant Biotechnology and Bioprospecting aspects.

Students were given inputs on various techniques such as selection of plus trees, assemblage of germplasm, CSO, SSO, SPA, clonal bank, tree breeding and productivity enhancement under **Genetics and Tree Improvement module**; techniques in Mycorrhizal Fungi – Isolation, Identification and Mass Production Methods (Biofertilizer production), Identification and Multiplication techniques of beneficial bacteria/growth promoting microorganisms under **Microbiology module**; basics of remote sensing and GIS; Practical application of GPS and Demonstration of application of QGIS under **GIS & Remote sensing module**; characterization of FGR (morphological, molecular and biochemical characterization), Conservation strategies (Ex-situ & In-situ) under **Forest Genetics Resource Management module**; experimental design, data collection, analysis using appropriate statistics and scientific report/paper writing under **Research methods, biostatistics and Scientific writing module**; molecular techniques in Plant Biotechnology (DNA isolation, DNA markers, plant tissue culture, transgenic and genome engineering, Biopiracy and patenting, good laboratory practices, Biosafety and Bioethics and clonal propagation under **Plant Biotechnology module** followed by **Bioprospecting module** with collection and processing of plant samples, extraction, fractionation using column chromatography and Thin Layer Chromatography (TLC), and characterization and identification of bioactive active compounds using UV Spectrophotometry, HPLC and GC/MS/MS, evaluation of bioactive principles for biological properties.

The Director Dr. Mohit Gera, IFS had an interactive session with the students on **“Sustainability: How it is relevant to our lives** on 15<sup>th</sup> May, 2019. During the session, he explained about the importance of physical fitness and health, investment and wealth creation and management of time along with interesting and impressive quotes about sustainability. The resource persons involved in this internship training include Dr. V. Mohan, Dr. R. Yasodha, Dr. Modhimita Dasgupta, Dr. Mathish Nambiar Veetil, Dr. V. Sivakumar, Dr. A. Karthikeyan, Dr. R. Anandalakshmi, Dr. Rekha Warriar, Dr. A. Rajasekaran, Dr. D. Thangamani, Shri. Mayavel, Dr. A. Shanthi, Mrs. K. Shanthi, Mrs. S. Lalitha, Dr. A. Balasubramanian, Mrs.

K. Sushamani, Mrs. R. Mahalakshmi, Mrs. M.V. Vinetha, Mrs. R. Kalaiselvi, Mrs. R. Lakshmidevi, Mrs. K.S. Rathinam, Mrs. R. Sumathi, and Dr. N. Senthilkumar.

The training aimed to expose the students on various aspects of forestry research from tree selection to propagation including microbiology, molecular biology, plant biotechnology, GIS remote sensing, forest genetic resource management and bioprospecting and to provide hands on training to handle advanced instruments and upgrade the technical skills. The students were taken to various laboratories, nurseries, fields and museum. The four weeks internship training ended with the valedictory session on 6<sup>th</sup> June, 2019. The director Dr. Mohit Gera, IFS, in his valedictory address talked about sustainability and the contribution of forestry research towards increase in income of rural poor and farmers. He also stated that the research on tree species with respect to environment is also important in the era of climate change. He further emphasized that the students should also be exposed to country's commitments in forestry in international conventions such as UNFCCC, UNCCD and CBD. The success story of IFGTB's clone release also be shared in the student internship program to encourage them for joining forestry research. Dr. Murugesan, GCR informed the students during his concluding remarks that IFGTB will also provide opportunities to carryout short term project works. He also informed that the internship training provided a platform for the students to understand various research activities being undertaken in IFGTB. Through this training, IFGTB may identify students/aspirants for JRF and other research positions. A brief group presentation was made by the students about the training modules. Student participants expressed their satisfaction and informed that the training module was appropriate for their current academic and future research endeavour. The director distributed participation certificates to internship trainees and followed by the formal vote of thanks by Dr. N. Senthilkumar, Students Coordinator.



Dr. S. Murugean, GCR addressing the student participants



Demo on tree measurement



Students were exposed to handle microscope & image analyser



Dr. Mohit Gera, IFS, Director interacted with the students



Dr. A. Rajasekaran detailing GIS & Remote Sensing



Students on seed handling technique



Students were detailed about biofertilizer production



Presentation by Student trainees



Distribution of certificates by Dr. Mohit Gera, IFS, Director IFGTB



Student trainees with the Director, IFGTB