

## **About Workshop**

### **National Herbarium and Raw Drug Repository on resources used in Indian System of Medicine:**

The one stop herbarium to meet the needs of both botanists and non botanists was established in 1993 while implementing FRLHT's co-ordinated pioneering projects related to conservation of medicinal plants in southern Indian states. There on the FRLHT herbarium was further built on to develop a national repository of natural resources used in Indian System of Medicine under the aegis of Centre of Excellence Project, Ministry of Environment and Forests (MoEF), Government of India, New Delhi. FRLH herbarium due to its multi-facet dimension can be used by most of the user groups at different level (from common person to vaidya or researcher). It also comprises of herbarium, raw drug repository of resources used in ISM and image library of medicinal plants and Ethno-Medicinal Garden.

### **Molecular identification of plant species**

Medicinal plants have gained popularity worldwide for treatment of diseases and maintenance of health. There is a huge demand at the national as well as international level for herbal drugs, there is a need to maintain the quality and purity of plant material. Authentication of medicinal plants is of utmost importance for safety and efficacy of herbal drugs. Sequencing a standard region of DNA known as DNA barcoding can be used as an efficient tool for species identification.

## **Objectives**

Training human resource on identification and authentication of plant species and raw drug using taxonomical and molecular tools

## **Target Audience**

Students and Faculty/Scientists from Academia and Industry from Botany, Pharmacy, AYUSH, Life Sciences, Biotechnology, Genetics, Genomics, Medicine, Agriculture, Environment and other disciplines.

## **Topics**

- Introduction to medicinal plants with emphasis on Traded and species of Conservation Concern
- Herbarium Techniques and Digital Herbarium
- Field surveys - Botanical and Ecological studies
- Identification of Medicinal plants and Raw Drugs
- Phytochemistry
- Chromatography techniques
- Introduction to DNA and genes
- Sample collection, storage and transportation
- Techniques used for DNA extraction from plants
- Assessment of DNA quality and quantity
- Plant DNA fingerprinting
- Bioinformatic tools and data analysis

*The training will be organized through classroom lectures, interactive discussions with faculty along with exposure to diversity of medicinal plants in Ethno Medicinal Garden*

## Schedule

<b>Day 1</b>	<ul style="list-style-type: none"> <li>➤ Medicinal plant diversity and Conservation</li> <li>➤ Traded Medicinal plants - Current Scenario</li> <li>➤ The International Code of Nomenclature for algae, fungi, and plants (ICN),</li> <li>➤ What is a herbarium; Importance of herbarium and Virtual herbarium</li> <li>➤ Identification of plants in the field, Botanists know-how for pre-field preparation, collection, processing, drying, pasting, stitching, labelling and authentication of specimens, Storage and maintenance</li> <li>➤ Botanical and Ecological documentation</li> <li>➤ Raw Drug identification, collection and identification with focus on substitutes and adulterants.</li> <li>➤ Use of Microscopy tool for Raw Drug Identification.</li> </ul>
<b>Day 2</b>	<ul style="list-style-type: none"> <li>➤ General extraction methods- classical, successive solvent and Ayurveda based extractions</li> <li>➤ General phytochemical techniques</li> <li>➤ Chromatographic techniques with special emphasis on TLC/HPTLC</li> </ul>
<b>Day 3</b>	<ul style="list-style-type: none"> <li>➤ Plant Sample Collection, Storage and Transportation.</li> <li>➤ Genomic DNA extraction from plants.</li> <li>➤ DNA quality control and quantification.</li> <li>➤ DNA amplification using PCR for chloroplast and nuclear genes.</li> <li>➤ Data analysis and phylogeny tree construction</li> </ul>

## Resource Persons

### **Centre of Conservation of Medicinal Resources**

- Dr. K. Ravikumar, Professor & Head
- Dr. S. Noorunnisa Begum, Associate Professor
- Dr. N. Dhatchanamoorthy, Research Associate
- Dr. S. Gokul, Research Associate
- Dr. Anbarasan, Consultant
- Mr. Patturaj, Research Fellow

### **Centre for Holistic Nutrition and Ayurveda Biology**

- Dr. Mamatha Reddy, Assistant Professor
- Dr. Subrahmanya Kumar K, Assistant Professor

### **Centre for Functional Genomics & Bio-informatics**

- Dr. Malali Gowda, Head
- Dr. Pavithra N, Post Doctoral Fellow
- Dr. Lavanya DK, Post Doctoral Fellow

## **Registration Fee**

**Students:** Rs 3,000/-

**Faculty:** Rs 7,000/-

**Industry:** Rs 10,000/-

**Group Registration:** If more than 3 register from the same institution, there will be some discount in registration fees

**Last date to apply: 25<sup>th</sup> December, 2018**

For registration, visit: <http://tdu.edu.in/events/medicinalplants-rawdrugidentification-training/>

## **Payments Mode**

➤ **NEFT (Online)**, please add “**UTDHST General Fund**” as an NEFT Transfer Beneficiary:

Account Name: UTDHST General Fund

Account Number: 0694104000134705

Bank details: IDBI Bank, Yelahanka New Town, Bangalore-560064

IFSC: IBKL0000694, MICR: 560259014

➤ The **Demand Draft** should be in favour of “**UTDHST**” and payable at Bengaluru.

**Postal address:**

The University of Trans-Disciplinary Health Sciences and Technology,

#74/2, Jarakabande Kaval, Post Attur via Yelahanka, Bengaluru, Karnataka 560064

## **Accommodation and Travel**

Food and accommodation will be arranged based on request latest by **25<sup>th</sup> December, 2018** with additional charges.

Travel will be arranged from Yelahanka Police Station to TDU.

For travel, accommodation and further details, please contact, [herbarium@tdu.edu.in](mailto:herbarium@tdu.edu.in);

Phone: +91-9449058869

## **Venue**

The University of Trans-Disciplinary Health Sciences and Technology,

#74/2, Jarakabande Kaval, Post Attur via Yelahanka, Bengaluru, Karnataka 560064