



विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY

NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL

Warangal - 506 004, Telangana

Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI)

Call for Registration and Participation Training Program on R&D Equipment

Theme: Hands on Training program on the applications of Advanced Research techniques by using sophisticated instruments in life sciences

Program Dates: 25th – 31st May, 2023

Venue: **Osmania University, Hyderabad**

Register before: 15-05-2023



Osmania University, Hyderabad



Scan to Register

No Registration Fee

Click to register: <https://forms.gle/ueAk1o4ZyXJRNnXA6>

Objectives of the Program:

- To enable the participants to understand the principles, applications, and hands-on experience on sophisticated analytical instruments.
- To gain knowledge about the in-depth analysis of the characterization techniques using high-end analytical instruments.
- To interact with eminent professors/scientists/ industrial research personnel and discuss real-time research and make collaborations.
- To encourage the participants to utilize the facilities and enhance the research temper.
- To create a research-friendly atmosphere by letting the creative minds of the country exchange ideas and share their knowledge among their fellow participants.

Eligibility Criteria:

- Persons of Indian origin.
- Faculty / Scientists / Post-Doc Fellows / Ph.D. Fellows / Industry Persons / M.Sc. students/ MTech. students who are actively involved in research and development (R&D) in the fields of Chemistry, Physics, Botany, Instrumentation, or any relevant area.

Important Instruction:

Fill in the prescribed bio-data form attached with this brochure and get it endorsed by the head of the institution. And keep the scanned copy ready, which needs to be uploaded during registration.

Organized by
Osmania University, Hyderabad (Spoke),
&
NIT Warangal (Hub)
Funded by
DST, Govt of India

About Osmania University:

Osmania University, one of the oldest and largest educational institutions, reflects the National agenda for higher learning, as well as the aspirations of its founder, Mir Osman Ali Khan, the 7th Nizam of Hyderabad. From a conservative center of study, this 100 year old University has now emerged as a premier institution of higher learning to meet the twenty first century goal in learning. The University has earlier emerged as a national leader in teaching and research with the highest rating of five -star status awarded by NAAC. Located in a sprawling campus spread over 1600 acres, the University provide a restful surrounding for scholarly pursuits. A jurisdiction of over 60,000 sq.km in the Telangana region of the state, covering a population of some 20 million, vests the university with more than 500 colleges offering 100 courses to nearly 2.5 lakh students. The University has attracted a sizeable number of students from over 30 countries. With Hyderabad, in the lead as far as information technology and Scientific Institutions are concerned, the University has an ever-increasing role to challenging student's intellect into higher spheres of advanced learning.

About NIT Warangal:

National Institute of Technology Warangal, formerly known as Regional Engineering College, was established in 1959. Over the years it has developed into a premier institute of higher learning and is ranked among the top technical education institutions in India. There are 14 Departments offering eight undergraduate, 35 post-graduate programs and guiding 952 PhD scholars besides post-doctoral programs. About 6864 students across the country including international students' study on the campus. It is a fully residential campus spread across 250 acres with excellent infrastructure in the form of state-of-the-art library, seminar halls, guest houses and research laboratories.

STUTI Team:

Patron

Prof. D. Ravinder

Vice-Chancellor, Osmania University.

Prof P. Laxmi Narayana,

Registrar, Osmania University.

Chairman

Prof. Bidyadhar Subudhi,

Director, NIT Warangal

Co-Chairman

Prof. Somasekhar V.T,

Dean (R&C), NIT Warangal

Convener

Prof B. Rama Devi,

Head-Department of Botany, Osmania University.

Principal Investigator

Prof. N. Narasaiah,

Dept. of Metallurgy and Material Engineering, NIT Warangal

Co-Principal Investigator

Dr. T K Sai,

Principal Scientific Officer, CRIF, NITW & Co-PI, STUTI

Coordinators

Prof K.Shailaja,

Department of Botany. Osmania University

Sri D. Ravikumar

Technical Officer, CRIF, NIT Warangal

Note:

The shortlisted candidates will be intimated through mail. All the selected participants have to submit the uploaded bio-data form physically for the confirmation of participation.

Non-local participants are eligible for boarding/ lodging at Osmania University, Hyderabad on double sharing basis.

For domestic travel of participants, the reimbursement for train/bus tickets is allowed as per actual up to 3AC fare (for outstation participants only).

Contact Us:

Prof K.Shailaja, (OU - Hyd)

Sri D. Ravikumar (NIT Warangal)

office_stuti@nitw.ac.in

About STUTI:

The Scheme 'Synergistic Training program Utilizing the Scientific and Technological Infrastructure' (STUTI) is intended to build human resource and its knowledge capacity through open access S&T Infrastructure across the country. As a complement to the various schemes of DST funding for expansion of R&D Infrastructure at academic institutions, STUTI scheme envisions a hands-on training program and sensitization of the state-of-the-art equipment as well as towards sharing while ensuring transparent access of S&T facilities.

Instruments covered for training:

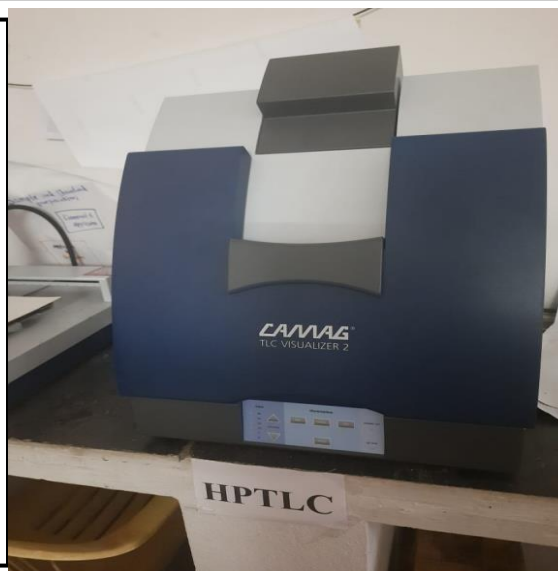
1. **HPTLC (High Performance Thin Layer Chromatography)**
2. **Fluorescent Electron Microscope**
3. **Atomic Absorption Spectrophotometer**
4. **UV-Visible Spectrophotometer**
5. **Portable Photosynthetic System**
6. **HPLC (High Performance Liquid Chromatography)**
7. **FT-IR (Fourier Transform Infra-Red spectroscopy)**
8. **Soxhlet apparatus**

High Performance Thin Layer Chromatography (HPTLC)

Make: Lamag

Model: TLC visualizer 2

Applications: HPTLC is used for purity control of chemicals, pesticides, steroids, and water analysis. It is also widely used for analysis of vitamins, water-soluble food dyes, pesticides in fruits, vegetables, and other food stuffs. HPTLC is useful in detecting chemicals of forensic concern, including abuse drugs, poisons, adulterations, chemical weapons, and illicit drugs.



Portable photosynthetic system

Applications: A portable instrument used for determining the photosynthesis rate of plants. With an affordable price, this is a robust and reliable system with a very good technical specification and yet simple to use design. All the features are fully integrated into a field portable, lightweight package that is particularly well suited to teaching and researching purposes.

UV-VIS spectrophotometer

Make: Systronics

Model: 117

Applications: UV visible spectroscopy technique is applied as a quantitative technique in various market segments such as food and beverages, pharmaceutical, chemical, water testing, and biotech industry. The position of absorbance peaks in the spectrum provides information about the molecular structure of the sample



Fluorescent Electron Microscope

Applications: Fluorescence microscopy is widely used in diagnostic microbiology and microbial ecology (for enumerating bacteria in natural environments). It is possible to measure, for example, the pH, free calcium and NAD(P)H concentration in the cytoplasm, as well as intercellular communications between cells.

Atomic Absorption Spectrophotometer (AAS)

Make:

Model: ICE 3300 AA System

Applications: AAS finds wide application in fields that vary from mining to pharmaceuticals, environmental control and agriculture. Similarly, the food, cannabis and health supplement industries make use of AAS to ensure that their products are safe for consumption. The analysis of drinking water is probably one of the most important applications of AAS, especially in places where the environment is not properly cared for.





High Performance Liquid Chromatography (HPLC)

Model: Shimadzu - Japan

Applications: High-performance liquid chromatography (HPLC), formerly referred to as high-pressure liquid chromatography, is a technique in analytical chemistry used to separate, identify, and quantify each component in a mixture. It relies on pumps to pass a pressurized liquid solvent containing the sample mixture through a column filled with a solid adsorbent material. Each component in the sample interacts slightly differently with the adsorbent material, causing different flow rates for the different components and leading to the separation of the components.

Fourier Transform InfraRed spectrometer (FT-IR)

Make: Bruker optics - Germany

Model: TENSOR27

Applications:

FTIR spectrometer is an important scientific instrument in various research, analytical and Quality control laboratories for identification and characterization of various sample substances. This instrument will provide information about interaction of vibrational radiation with matter, thermal and mechanical properties of materials, catalyst characterization, and their kinetic and thermodynamic properties.



Soxhlet apparatus

Make: Bruker optics - Germany

Model: LTSW-6

Applications:

Food testing.

Biofuels.

Environmental analysis of soils, sludge, and wastes.

Extracting Natural Compounds.

Transferring Compounds from Layers.

Selective Removal of Components.

BIODATA FOR STUTI-21 DST TRAINING PROGRAM

NAME Prof./Dr./Mr./Ms.																	

DESIGNATION																
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ORGANIZATION																

DATE OF ENTRY IN SERVICE														
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CATEGORY (GENERAL / SC / ST / OBC)									
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DATE OF BIRTH										
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SEX (M/ F)		
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COMPLETE ADDRESS (OFFICE)															

COMPLETE ADDRESS (RESIDENCE)															

CONTACT DETAILS	PHONE (O)	PHONE (R)	MOBILE No.	E-MAIL

EDUCATIONAL / PROFESSIONAL QUALIFICATIONS (GRADUATION ONWARDS)					
Sr. No.	EXAMINATION/ DEGREE	UNIVERSITY/ INSTITUTE	YEAR	SUBJECT	DIVISION/PERCENTAGE OF MARKS

EXPERIENCE					
Sr. No.	NAME OF THE ORGANISATION	DESIGNATION	FROM	TO	DUTY PERFORMED

TRAINING ATTENDED				
Sr. No.	YEAR	NAME OF THE TRAINING PROGRAMME	NAME OF THE INSTITUTE	DURATION

RESEARCH EXPERIENCE				
Sr. No.	YEAR	TOPIC OF RESEARCH	SPONSORING AGENCY	GIST OF REASEARCH

PAPER PUBLISHED / PATENT FILED/OBTAINED				
Sr. No.	YEAR	TOPIC OF PAPER/ BOOK	GIST OF PAPER	NAME OF JOURNAL/ MAGZINE/ PUBLISHER

Briefly give details of significant contribution made by you in the field of Science & Technology during your career. (100 words)

Date:
Place:

(Signature of the Participant)

(Head of the Institution)