



विज्ञान एवं प्रौद्योगिकी विभाग  
DEPARTMENT OF  
SCIENCE & TECHNOLOGY

## NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL

Warangal - 506 004, Telangana

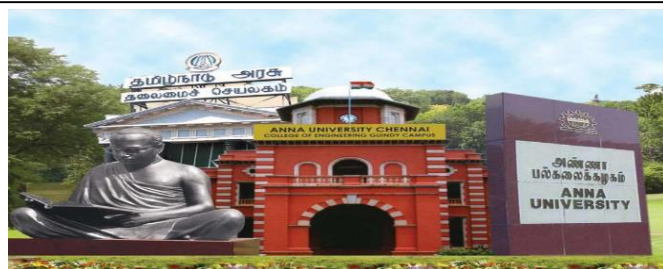
### Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI)

#### **Call for Registration and Participation** **Training Program on R&D Equipments**

**Theme:** Advanced Characterization Techniques with sophisticated instruments

**Program Dates:** 22<sup>nd</sup> - 28<sup>th</sup> June 2023

**Venue:** Anna University Chennai



**Register before: 13th June, 2023**



**Scan to  
Register**

**No Registration Fee**

**Click to Register:** <https://forms.gle/tE3aJyZekjYfsfKq6>

#### **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/ M Tech. Students who are actively involved in research and development (R&D) in the fields of Chemical Sciences, 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

**Anna University Chennai (Spoke)**  
**NIT Warangal, Telangana (Hub)**

Funded by

**DST, Govt of India**

### About Anna University:

College of Engineering, Guindy is a pioneer in Technical education in India, established in 1794 (later renamed as Anna University in 1978). It offers higher education in Engineering, Technology, Architecture and Applied Sciences relevant to the current and projected needs of the society. Besides it also promotes research and developments, conducting more scientific events. It pursues teaching, research, and consultancy and impart training programmes in different fields.

### 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**

**Dr. R. Velraj,**

*Vice Chancellor, Anna University*

##### **Chairman**

**Prof. Bidyadhar Subudhi,**

*Director, NIT Warangal*

##### **Co-Chairman**

**Prof. Somasekhar V.T.,**

*Dean (R&C), NIT Warangal*

##### **Convenor**

**Dr. N. Rajendran,**

*Professor & Head, Dept. of Chemistry, AU, Chennai*

##### **Principal Investigator**

**Prof. N. Narasaiah,**

*Dept. of Metallurgical and Material Engineering, NITW & PI, STUTI*

##### **Co-Principal Investigator**

**Dr. T K Sai,**

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

##### **Program Coordinators**

**Dr. P. Nagaraaj,**

*Assistant Professor (Sr. Gr.), Dept. of Chemistry, AU, Chennai*

**Sri D Ravikumar,**

*Technical Officer, CRIF, NIT Warangal*

**Sri Harish Madupu,**

*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 Anna University Chennai 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:

**Dr. P. Nagaraaj**

**Assistant Professor (Sr. Gr.)**

**Department of Chemistry, Anna University, Chennai**

[nagaraaj@annauniv.edu](mailto:nagaraaj@annauniv.edu)

**Sri Harish Madupu,**

**Technical Officer, NIT Warangal**

**Sri D Ravikumar,**

**Technical Officer, NIT Warangal**

[office\\_stuti@nitw.ac.in](mailto: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:

HR TEM	SEM	AFM	Fluorescence
UV-Vis	GPC	UTM	Thermal analyser
DLS	NMR	XRD	Rheometer
Contact Angle			

### Fluorescence Spectrophotometer

**Make:** Marutek

**Model:** FL-100

**Application:** This is used to find the emission spectrum of materials. It can be done for both solid and liquid samples. It is used to determine the emission at particular wavelength, sensing of materials, biological studies, etc.



### UV-Visible Spectrophotometer

**Make:** Jasco

**Model:** V-730

**Application:** This is used to find the absorption spectrum of materials. It can be done for both solid and liquid samples. It is used to determine the absorbance wavelength, bandgap and many other fields.



## Nuclear Magnetic Resonance

**Make :** Spinsolve

**Model :** Proton NMR 40 MHz

**Application :** This is used to find the structure of organic molecules, determine physical, chemical and biological properties of matter. Used in advanced medical techniques, MRI.

## Dynamic Light Scattering

**Make:** Malvern

**Model:** Zetasizer Nano-ZS ZEN 3600

**Application:** This is used to find the particle size of various materials. It gives the hydrodynamic size and also the size distribution range.



## Gel Permeation Chromatography

**Make:** Shimadzu

**Model:** LC-20AD, RID-20A, CTO 20A

**Application:** This is used to find the relative molecular weight of the polymer materials. It gives information on the distribution of the molecular weights. Based on which, separation of the materials can also be done.





## Thermal Analyser

**Make : TA Instruments**

**Model: Q100, Q10**

**Application:** This is used to find the thermal properties of the material. It is used to determine the melting point, degradation temperature, moisture content present , etc.

## Contact Angle Meter

**Make : Kyowa**

**Model : Dme-210**

**Application :** This is used to find the wettability of the materials. It helps to determine the surface energy value.



## Rheometer

**Make: Malvern**

**Model: Bohlin Gemini II**

**Application:** This is used to understand the flow/deformation properties of a material. It is used to find the stress-strain relationship. It is used to determine the viscous fluid flow.



## Powder X-Ray Diffractometer

**Make:** PANalytical

**Model:** X'Pert Powder Pro

**Application:** This is used to understand the crystalline nature, and Phase analysis of a material. Used to calculate crystallite size and strain and identification of impurity and defects.

## Atomic Force Microscope

**Make:** Park

**Model:** XE 100

**Application:** This is used to find surface topography of the material. It can be used for any type of material. 3D height images can be obtained. Surface roughness can be determined.



## Scanning Electron Microscope

**Make:** Carl Zeiss

**Model:** MA 15 / EVO 18

**Application:** This is used to find the size and shape of the material. It is used to identify the structural morphology of the material. Elemental mapping and identification of elements can also be done.



## **Universal Testing Machine**

**Make: Hounsfield**

**Model: S-0154-50kN**

**Application:** This is used to find the mechanical properties of the materials. It gives information in the tensile stress and compressive strength.

## **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



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

<b>EXPERIENCE</b>					
Sr. No.	NAME OF THE ORGANISATION	DESIGNATION	FROM	TO	DUTY PERFORMED

<b>TRAINING ATTENDED</b>				
Sr. No.	YEAR	NAME OF THE TRAINING PROGRAMME	NAME OF THE INSTITUTE	DURATION

<b>RESEARCH EXPERIENCE</b>				
Sr. No.	YEAR	TOPIC OF RESEARCH	SPONSORING AGENCY	GIST OF REASEARCH

<b>PAPER PUBLISHED / PATENT FILED/OBTAINED</b>				
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)