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: A One Week Training Program on Advanced Research Instruments
Program Dates: 24th – 30th November 2022
Venue: National Institute of Technology, Warangal



Register before: 10th Nov 2022

Scan to Register

No Registration Fee

Click to Register: https://forms.gle/NB5PJjfzMa73Qfd96

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 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
NIT Warangal, Telangana
Funded by
DST, Govt of India

About Central Research Instrumentation Facility (CRIF):

Central Research Instrumentation Facility (CRIF) is an integrated facility to provide high-end analytical services to academic and industrial research. The CRIF works with a motto to bring out the research output of scholars matching the international standards. The central facility caters to the department requirements under a single umbrella by fostering interdisciplinary research. Students from the different branches of science and engineering come here for research and experimentation, creating a vibrant cross-disciplinary atmosphere. The CRIF is committed to expanding to facilitate state-of-the-art laboratory services to all academia and industries located across the country. The facility is spread across an area of 28000 sq. ft.

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:

Chairman
Prof. N. V. Ramana Rao,
Director, NIT Warangal

Co-Chairman
Prof. V. Rajeswar Rao,
Dean (R&C), NIT Warangal

Co-Chairman
Sri S Goverdhan Rao
Registrar

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

Smt GSR Sanjeevini
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 National Institute of Technology, Warangal Telangana 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:

Sri Harish Madupu,
Technical Officer, NIT Warangal

Smt GSR Sanjeevini,
Technical Officer, 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:

XRD	**3D Metal Printer**	**NMR**	**X Band ESR**
LC-HRMS	**SEM**	**CHNS Analyser**	**Liquid Nitrogen Plant**
ICP-OES	**Fluorescence Work station**	**Microwave Synthesizer**	

Inductively Coupled Plasma Optical-Emission spectroscopy

Make: Agilent Technologies
Model: 700 series
Applications: This technique is used for quantitative and qualitative determination of the metals and metalloids in the following sample





Liquid Chromatography-High Resolution Mass Spectrometry (LC-HRMS)

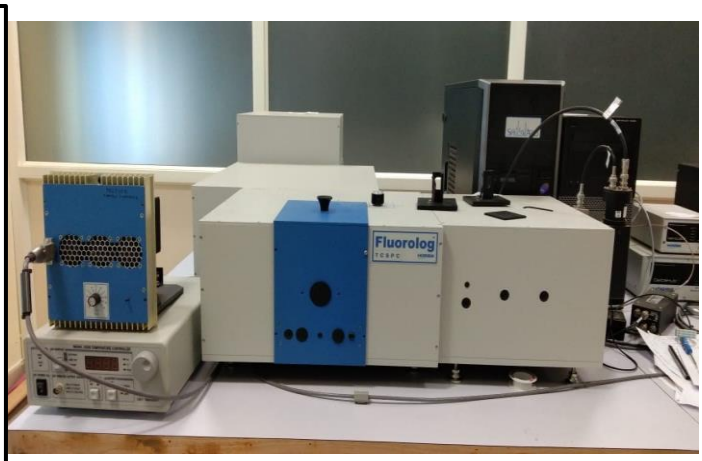
Make: Agilent Technologies
Model: QTOF 6530
Applications: The molecular structure of petroleum components, industrial products, pharmaceuticals and biomolecules can be judged. The purity of the finished chemical industrial products is established.

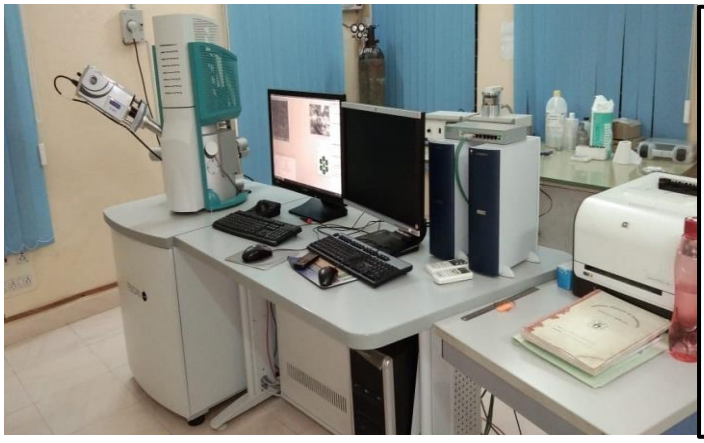
Flouresence Workstation

Make: Horiba Instruments Incorporated, USA

Model: FL-1000

Applications: Molecular and solid-state fluorescence emission can be monitored and quantum lifetime measurements can be evaluated. Materials in all states and biological samples can be investigated





Scanning Electron Microscope (SEM)

Make: TESCAN

Model: VEGA3 LMU

Applications: Surface Studies, Nano Particle imaging, Phase transitions, Corrosion products and all kinds of solid material studies.

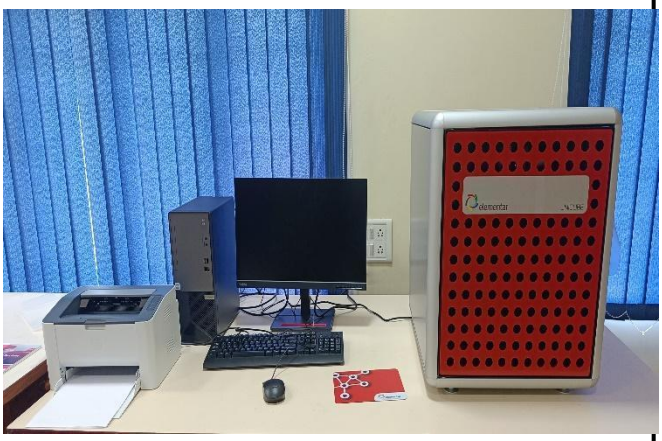
X-Ray Diffraction (XRD)

Make: Panalytical

Model: X-pert powder

Applications: Powder XRD equipment can be used for the characterization of powder samples for the phase analysis, Identifying crystalline phases and orientation and crystallographic information. This equipment can also capture data from the bulk polycrystalline samples after the required sample preparation. Structural properties such as Lattice parameters, Strain, Grain size, texture and epitaxy can be determined from the data. The XRD diffraction data will be provided to the user and the user can investigate the above materials' properties by analyzing the data





CHNS Analyser

Make: Elementar, Germany

Model: UNICUBE+

Applications: The CHNS(O) Analyzer find utility in determining the percentages of Carbon, Hydrogen, Nitrogen, Sulphur and Oxygen of organic compounds, based on the principle of "Dumas method" which involves the complete and instantaneous oxidation of the sample by "flash combustion".

NMR Spectroscopy

Make: Bruker

Model: Ascend 400 MHz

Applications: Molecular Structure Determination of Condenser: Achromatic strain-free condenser N.A0.90with iris diaphragm. Compensator: Quartz wedge lambda tint plate and bedeck.

Reflected illuminated: Attached with halogen illumination lamp 100w halogen illuminated with external power supply incident light polarizer 360degrotatable analyser with filler Organic compounds, Pharmaceuticals and Drugs. Structure and atomic arrangements in molecules and crystals can be investigated. Kinetic and temperature studies of reaction mixtures.

1D-NMR: 1H, 13C, 31P, 19F, DEPT-135, DEPT-90, DEPT-45,1D_NOESY,Water Suppression, VT Temperature





X Band ESR Spectroscopy

Make: JEOL Resonance Inc., Japan
Model:JES-FA100
Applications: ESR Spectrometer is used for the measurement of species that contain unpaired electrons (Free radicals, transition metal complexes, molecular structure, valence electron wave functions, electron transport, crystal & ligand field splitting, relaxation mechanisms and reaction kinetics, odd-electron molecules, rare earth ions etc. ESR is a powerful non-destructive and non-intrusive analytical method. ESR yields meaningful structural information even from ongoing chemical or physical processes, without influencing the process itself.

3D Metal Printer:

Make: 3D System

Model: DMP Flex 100





Microwave Synthesizer

Make: RAGA'S

BIODATA FOR STUTI-21 DST TRAINING PROGRAM

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

DESIGNATION															

ORGANIZATION															

DATE OF ENTRY IN SERVICE														

CATEGORY (GENERAL / SC / ST / OBC)									

DATE OF BIRTH										

SEX (M/ F)		

COMPLETE ADDRESS (OFFICE)															

COMPLETE ADDRESS (RESIDENCE)															

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

CONTD. 2

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

CONTD.3

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)