



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:** Learning the Technology and Applications of DST Sponsored Advanced Instruments

**Program Dates:** 28<sup>th</sup> July – 03<sup>rd</sup> August 2022

**Revised Dates:** 22<sup>nd</sup> – 28<sup>th</sup> August 2022

**Venue:** Pt. Ravishankar Shukla University

**Register before: 17<sup>th</sup> July 2022**

**Register before: 31<sup>st</sup> July 2022**



Scan to Register

**No Registration Fee**

Click to Register: <https://forms.gle/D7ZkUBheYWKgF4s76>

### 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, Instrumentation, or any relevant area.
- Not more than 3 participants from one institution per training program will be allowed.

### 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

**Pt. Ravishankar Shukla University, Raipur (Spoke), NIT Warangal (Hub)**

Funded by

**DST, Govt of India**

## Instruments covered for training:

- TD-GC-MS-ECD-FID
- AAS
- XRD
- HPLC
- NMR
- Ion-Chromatography

## About Pt. Ravishankar Shukla University, Raipur:

Pt. Ravishankar Shukla University (PRSU), established in 1964, is the largest and the oldest academic institution of Chhattisgarh state. The PRSU has 300 acres sprawling campus and grown enormously over the last 53 years in terms of number of students (approx. 2 lakhs) as well as disciplines, viz., arts, science, life science, humanities, law, education, pharmacy, management, physical education, etc. 27 Schools of Studies and around 150 affiliated colleges spread over different districts of Chhattisgarh. It has been accredited with “A” grade by NAAC.

## 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. KL Verma,**  
*Vice-Chancellor, Pt Ravishankar Shukla University, Raipur*

#### Chairman

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

#### Co-Chairman

**Prof. V. Rajeswar Rao,**  
*Dean (R&C), NIT Warangal*

#### Convenor

**Prof. Kallol K Ghosh**  
*Head, SoS in Chemistry, Pt Ravishankar Shukla University*

#### Principal Investigator

**Prof. N. Narasaiah,**  
*Dept. of Metallurgy and Material Engineering*

#### Coordinator

**Prof. Shamsh Pervez,**  
*Chairman, BoS Chemistry & PI, SERB Project EMR/2015/000928*

**Dr. T K Sai,**  
*Principal Scientific Officer, CRIF, NITW & Co-PI, STUTI*

#### Program Coordinators

**Dr Indrapal Karbhal**  
*Asst. Professor, PRSU*

**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 NITW on single/double sharing basis subject to availability of accommodation.

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. Indrapal Karbhal**  
Mob: 8605985169

**Sri Harish Madupu**  
Mob: 7010881253

[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.

### Automated Thermal Desorption Gas Chromatography coupled to mass spectrometry (TD-GC-MS/MS)

**Make:** Thermo Fisher Scientific

**Model:** GC- Trace 1300 equipped with TSQ DUO MS

**Analysis/Application:** Qualitative and quantitative analysis of VOCs and Semi-VOCs and Organics using three different detectors MS/MS, FID and ECD.



### Atomic Absorption Spectrophotometer (AAS)

**Make:** Thermo Fisher Scientific, UK) with Hydride generation

**Model:** iCE-3000

**Analysis/Application:** Ni, Cd, V, Cu, Sn, Co, Cr, Al, Fe, As, Mn, Mo, Hg, Zn, Pb, Sb, Na, K, Li, Ca

Three approaches are attached with AAS: 1) Vapor generator for AS and Hg, flame mode and graphite furnace

### High Performance Liquid Chromatography (HPLC)

**Make:** Thermo Fisher Scientific, USA

**Model:** HPG-3200SD

**Analysis/Application:** Separate a mixture of compounds, Vitamins, Proteins, biomolecules etc.



### Ion Chromatography

**Make:** Thermo Fisher Scientific, UK

**Model:** Dionex 2000

**Analysis/Application:** Anions (e.g., fluoride, chloride, nitrate, sulfate and phosphate); and cations (e.g., ammonium, sodium, magnesium, potassium, and calcium)



### Nuclear Magnetic Resonance (NMR)

**Make:** Bruker

**Model:** ASCEND 400

**Analysis/Application:** Molecular structure of a material to be analyzed by observing and measuring the interaction of nuclear spins. (Organic, inorganic compounds, plant extract etc.)

### X-ray diffraction (XRD)

**Make:** BRUKER

**Model:** D2 PHASER

**Analysis/Application:** Crystalline phase, orientation and crystallographic information.



## 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 RESEARCH

<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)