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 on Photonic devices, DFT Calculus and R&D Equipment

Program Dates: 22nd - 28thJune, 2023

Venue: Bannari Amman Institute of Technology, Sathyamangalam, Erode, Tamil Nadu

Register before: 14-06-2023

Scan to Register

No Registration Fee

Click to register: https://forms.gle/6hUeogGjDfxYYKui6

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.

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

Bannari Amman Institute of Technology Tamil Nadu (Spoke),

&

NIT Warangal (Hub)

Funded by

DST, Govt of India

About Bannari Amman Institute of Technology:

Bannari Amman Institute of Technology (BIT) is an autonomous, self-financing engineering college, approved by AICTE, New Delhi and affiliated to Anna University, Chennai. It was established in the year 1996 by the Bannari Amman Educational Trust, serves as one of the citadels of higher education in the southern part of India. BIT campus provides environment for learning in harmony with nature, away from the odds of the city life. BIT aids to impart knowledge, teamwork, innovation, entrepreneurship, courage, sacrifice and duty which are innards of a meaningful life. The Institute has a team of 576 dedicated faculty members and they are encouraged to have teaching accountability, morals and values and to be role models to the students. BIT offers 21 undergraduate, 10 postgraduate and Ph.D. programmes in Science, Engineering, Technology and Management. BIT also has 25 sophisticated research laboratories and 9 centre of excellence for the betterment of students, research scholars and faculty members. The Department faculty members have obtained research projects funded by DST-SERB, BRNS, UGC-DAE-CSR and TNSCST. The faculty members have research collaboration with internationally recognized scientists from South Korea, Japan, USA, Taiwan and Malaysia. BIT Special Laboratories provide a platform for students to learn, practice, and innovate on the globally sought after skills, beside product development. The benchmarking initiative of BIT Gurugulam provide students with hands-on experience in foundation skills under faculty supervision. Through the program, students will get acquainted with professional and technical skills.

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 C Palanisamy, *Principal, BIT Sathy, TN*

Chairman

Prof. Bidyadhar Subudhi,
Director, NIT Warangal

Co-Chairman

Prof. Somasekhar V.T.,
Dean (R&C), NIT Warangal

Convenor

Prof. C.S.R.K. Prasad, *Registrar(I/c), NIT Warangal*
Dr. S Ashokan, *Prof., Dept. of Physics, BIT Sathy, TN*

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 Coordinator

Sri D Ravikumar,
Technical Officer, CRIF, NIT Warangal
Sri Harish Madupu,
Technical Officer, CRIF, NIT Warangal
Dr VN Vijayakumar
Faculty in Physics, BIT Sathy, TN
Dr M Thirumoorthy
Faculty in Physics, BIT Sathy, TN

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 **Bannari Amman Institute of Technology** 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:

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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:

• **Scanning Electron Microscopy (FESEM)**	• **Differential Scanning Calorimeter (DSC)**
• **Thermogravimetry Differential Thermal Analysis (TG/DTA)**	• **Polarizing Optical Microscope (POM)**
• **Ultraviolet Visible Spectroscopy (UV)**	• **Impedance Analyzer (IA)**
• **Cyclic Voltammetry work station (CV)**	• **FT-IR Spectroscopy (FT-IR)**
• **Spectro-Fluorometer (PL)**	• **Optoelectronic device fabrication**
• **High/Fast performance Liquid Chromatography (HPLC/FPLC)**	• **Density Functional Theory (DFT)**

Optoelectronic device fabrication

Make : APEX, Mumbai
Model : SPIN NXG-P1A
Applications: Spin Coating instrument, is used prepare the thin film, fabrication of sensors, Diode and Solar cell film. Keithley instrument is used analysis the I-V characteristics.

Field Emission Scanning Electron Microscope (FE SEM)

Make : German
Model : Carl Zeiss- Sigma 300
Applications : FE SEM is widely used for the imaging and characterization in material science, geological and environmental sciences. It is used for studying the sample's surface topography, chemical composition etc. including semiconductor device cross section analyses for gate widths, gate oxides, film thicknesses, and construction details.

Thermogravimetry Differential Thermal Analysis (TG/DTA)

Make : Milton, Mumbai
Model : SLEC061001MS
Applications : TG-DTA is a powerful technique for the measurement of thermal stability of materials including polymers. In this method, changes in the weight of a specimen are measured while its temperature is increased. Moisture and volatile contents of a sample can be measured by TGA.

Fourier transform infrared Spectroscopy (FT-IR)

Make : Bruker, Japan
Model : Alpha II
Applications : FTIR is a technique used for the analysis of chemical compounds. It is used to identify and quantify the functional groups present in a sample, as well as to determine its molecular structure and composition.

UV-Vis-NIR Spectrometer (UV Vis)

Make : Agilent Technologies
Model : Carry 5000
Applications : UV-Vis Spectrometer is a versatile analytical instrument that is used to measure the absorbance of light in the ultraviolet, visible, and near-infrared regions of the electromagnetic spectrum. It is commonly used in various fields such as chemistry, physics, biology, medicine, environmental science, and materials science.

Polarizing Optical Microscope (POM)

Make : Olympus, Japan
Model : BX53M
Applications : POM is used to observe and analyze the optical properties of materials, such as their birefringence, anisotropy, and optical activity. It is commonly used in geology, materials science, and biology.

Cyclic Voltammerty work station (CV)

Make : Japan
Model : CHI 600 series
Applications : CV is a technique used to study the electrochemical behavior of materials by measuring current as a function of applied voltage. It is widely used in electrochemistry, materials science, and analytical chemistry for the characterization of redox reactions, determination of electrochemical kinetics, and investigation of electrochemical properties of materials.

Spectro-Fluorometer (PL)

Make : Shimalzu, USA
Model : RF 5301PC
Applications : It is a widely accepted and powerful technique that is used for a variety of environmental, industrial, medical diagnostics, DNA sequencing, forensics, genetic analysis, and biotechnology applications. It is a valuable analytical tool for both quantitative and qualitative analysis.

Differential Scanning Calorimeter (DSC)

Make : **Shimalzu, USA**
Model : **DSC 60 plus**
Applications : DSC is a thermal analyzer which is used to measure the difference in heat absorbed or released by a sample and a reference material as a function of temperature or time. It is commonly used to study the thermal behavior of polymers, pharmaceuticals, foods, and other materials.

Impedance Analyzer (IA)

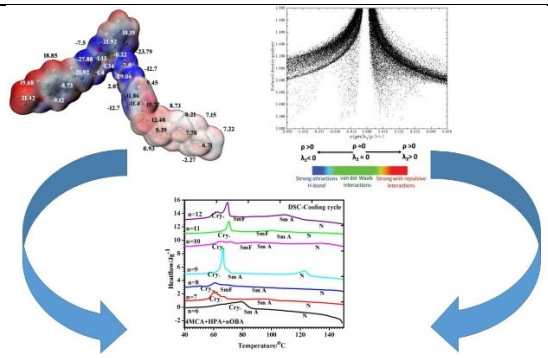
Make : Agilent, USA
Model : 4192A
Applications : It is used to measure the impedance of various electronic components and materials. It works by applying an AC signal to the component and measuring the resulting voltage and current. This data is then used to calculate the impedance of the component.

High/Fast performance Liquid Chromatography (HPLC/FPLC)

Make : Agilent
Model : 1220 Infinity Series
Applications : It is a powerful analytical technique used to separate, identify, and quantify the components in mixture of compounds. It is widely used in various industries such as pharmaceuticals, food and beverage, environmental analysis, and many others.

Density Functional Theory (DFT)

Software : Gaussian 09
Model : B3LYP
Applications : Density functional theory (DFT) is a quantum-mechanical (QM) method used in chemistry and physics to calculate the electronic structure of atoms, molecules and solids. It is very popular in computational solid-state physics since the 1970s.



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)