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Azadi Ka
Amrit Mahotsav



सत्यमेव जयते
Department of Science & Technology
Govt. of India



**BITS-Pilani, K.K. Birla Goa Campus
Organizes**

A Special Talk Series with Hands-on Training/Demo on Sophisticated instruments

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



September 26 - October 2, 2022

Web-page: <https://www.bits-pilani.ac.in/Goa/STUTIGoa/Home>

[Registration link](#)

Deadline for Registration: September 6, 2022

Selection confirmation will be intimated by Sep 8, 2022.

Supported by

**Department of Science and Technology,
Ministry of Science and Technology, Government of India, New Delhi.**

In collaboration with

Shivaji University, Kolhapur, Maharashtra.



Contact Us: Program Coordinator
Emergency contact: +919422442750
Email: stutigoa@goa.bits-pilani.ac.in



About BITS Pilani, Goa Campus:

Birla Institute of Technology and Science, Pilani is a private deemed to be university established under sec 3 of UGC in 1964. It has 5 campuses located in Pilani, Goa, Dubai, Hyderabad and Mumbai: It is declared an Institute of eminence by Min. of Education GOI in 2018. BITS Pilani KK Birla Goa Campus was established in 2004. It has 10 departments. The total faculty strength is 200+, and 360+ PhD students are pursuing their research. The campus has grown significantly in Sponsored research with 120+ ongoing projects. The campus has received funding from various national and international agencies from Govt and Industry. 7 Departments have received FIST support from DST. The campus has also been funded under DBT BUILDER scheme, a BIRAC supported BioNEST incubator and BITS BioCyTiH Foundation (a technology innovation hub under NMICPS- DST). The Institute is committed to generating, disseminating, and preserving knowledge, and to working with others to bring this knowledge to bear on the world's great challenges. BITS is dedicated to providing its students with an education that combines rigorous academic study and the excitement of discovery with the support and intellectual stimulation of a diverse campus community.

About STUTI:

STUTI stand for Synergistic Training program Utilizing the Scientific and Technological Infrastructure Program funded by the Department of Science & Technology (DST), Government of India. The Scheme is intended to human resource and its capacity building through open access to S & T Infrastructure across the country by organizing training program on DST supported R&D equipment targeting Scientists/Professors/PhDs and PDFs actively involved in research across various institutions in the country.

About Shivaji University:

Shivaji University, established on 18th November, 1962 has 276 affiliated colleges with 40 post-graduate departments. Recently, accredited with NAAC 'A++' grade with CGPA 3.52 in its fourth cycle of reaccreditation 2021. Various science departments of Shivaji University are well equipped with different sophisticated instruments and laboratory infrastructures procured using funds from various funding agencies such as TEQIP I & II, DST-PURSE I & II, DST-FIST I & II, SAIF, UGC-SAP I & II, UGC DRS, MHRD RUSSA Centers for Alternative Medicine, Nanofabrics and VLSI Design, DBT-IPLS, RGSTC, Erasmus Mundus+ (EU projects), MHRD PMMNMTT Centre for Cyber Security & Data Science, DBT-BUILDER etc. STUTI project is sanctioned by DST, New Delhi to SUK worth Rs. 2.25 crore for organizing training programs on various sophisticated instruments.

Goal of STUTI Program:

- The participants will understand and familiarize with the various sophisticated instruments supported by DST, GoI and other funding agencies.
- The participants get acquainted with the sophisticated instruments and characterization tools to design and implement appropriate strategies for research work.

Course Contents:

The main theme of this training program is to create awareness regarding the sophisticated instruments/ softwares/experimental set-ups such as PPMS, Confocal microscope, Flow cytometry, AFM, IC, BET, COMSOL multiphysics, Fluid bed technology etc. The training program includes theory lectures (2 lectures/day) as well as Demonstration/Hands on Training on the sophisticated instruments throughout the program. See the next page for details of the topics and the resource persons for the same.

Eligibility:

- Participants should be Indian Citizen.
- Assistant/Associate Professors/Professors/Scientists/Post Doc. Fellows/ Ph.D. Fellow and /or B. Tech. students who are actively involved in the field of basic or allied sciences or engineering.
- Industry professionals who are actively involved in R&D.

Registration Procedure:

- Interested candidates have to fill the online [form](#) on or before (31/08/2022).
- Candidates will be selected according to eligibility and available seats. The confirmation of selection will be communicated to the selected candidates on (08/09/2022) by email.

General Information:

- Registration Kit, Course material and Certificate of participation will be provided to the participants.
- Local Hospitality (accommodation & Meal) will be provided. The train fare (as per actuals) by shortest route will be reimbursed to the selected outstation participants. Participants are encouraged to bring their samples if any, for hands on analysis during the program.

The Focus Instruments of the Program:

- ◆Physical property measurement system (PPMS)
- ◆Confocal microscope
- ◆Atomic Force Microscope (AFM)
- ◆Ion Chromatograph (IC)
- ◆Surface area analyzer (BET)
- ◆Flow Cytometry (FACS)
- ◆Rheometer
- ◆Total Organic Carbon (TOC) analyser
- ◆UV-Spectrophotometer
- ◆FMCW Reflectometer
- ◆Differential Scanning Calorimetry (DSC) and Thermogravimetric Analysis(TGA)

A tour of the central sophisticated instrument facility (CSIE), BITS-Pilani, K K Birla Goa campus that hosts:

Field Emission Scanning Electron Microscope (FESEM), Liquid Chromatography - Mass Spectrometry (LCMS), Confocal microscope, Raman Spectrometer, X-ray Diffractometer, Nuclear Magnetic Resonance (NMR) spectrometer, Nano Particle Analyzer & Autotitrator, Sputter coater, Critical Point Drying, Ultramicrotome, Tissue processor.



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Details of the topics and corresponding resource persons

Shivaji University, Kolhapur



2 Lectures:

1. Morphological and Structural Characterization using Sophisticated Instruments.
2. Sophisticated Instruments at SAIF-DST-CFC center, Shivaji University, Kolhapur.

Prof. R. G. Sonkawade

Departments at BITS Pilani, K K Birla Goa Campus

PHYSICS



Measurement of magnetic and electrical properties of materials at low temperatures using Physical property measurement system or PPMS

Prof. Ram Shankar Patel



Imaging biomaterials using confocal microscopy and associated optics

Prof. P. Nandakumar

CHEMISTRY



Atomic Force Microscope (AFM)
Prof. Sunil Bhand



Ion Chromatograph (IC)

Dr. Kiran



Surface area analyzer (BET)

Dr. KP Jayadevan

BIOLOGICAL SCIENCES



Basics of Flow Cytometry; Demonstration of DNA content measurements of cells

Prof. Anasuya Ganguly.



Applications of Flow cytometry: from health to environment

Prof. Arnab Banerjee

CHEMICAL ENGINEERING



Introduction to Computational Fluid Dynamics using COMSOL multiphysics
Dr. Amol Deshpande



Modelling and Simulations for Engineers and Scientists

Prof. Srinivas Krishnaswamy

MECHANICAL ENGINEERING



Polymer processing and Characterization of Mechanical Properties

Prof. Sachin D Waigaonkar



Fluidized Bed Technology working principle and its applicability

Prof. Ranjit S Patil

ELECTRICAL & ELECTRONICS ENGINEERING



High-speed Data Acquisition and Processing Systems for Radar Applications: FMCW Reflectometer

Prof. Amalin Prince A.



Underwater Networks

Dr. Sarang Dhongdi

The topics will be covered in 4.5 hrs. of lectures on each day followed by practical sessions during the program



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

Organising committee:

- Prof. Meenal Kowshik (convener)
- Prof. Sunil Bhand (co-convener)
- Prof. R.G. Sonkawade
- Prof. Srinivas Krishnaswamy
- Prof. Halan Prakash
- Prof. Radhika Vatsan
- Prof. Dibakar Chakrabarty
- Prof. Abhijit Pete
- Prof. G. Karthikeyan
- Prof. Sharad M Sontakke
- Prof. Kundan Kumar
- Prof. Malabika Biswas
- Dr. Indrakshi Raychowdhury
- Dr. Devendra Gokul Patil
- Dr. Sudarshan Swain
- Dr. Anurag Nishad
- Dr. Kiran Vankayala
- Dr. Indrani Chakraborty
- Dr. Siddhartha Tripathi
- Dr. Vaibhav Joshi
- Dr. Kinjal Banerjee
- Dr. Riju De
- Dr. K.P. Jayadevan
- Dr. Subhasish Roy
- Dr. Raviprasad Aduri
- Mr. Arjun Halarnkar

Local Advisory committee:

- [Prof. Souvik Bhattacharyya](#)
Vice Chancellor, BITS-Pilani
- Prof. Suman Kundu, Director,
BITS-Pilani, K K Birla Goa campus.

Technical Committee:

- Dr. Indrani Chakraborty
- Ms. Sharvari P Kulkarni
- Ms. Vrushali Khedekar
- Ms. Gorav Gorav

-Department of Physics

- Ms. Lakshmi Ranjan
- Ms. Gaonkar Asmita Dileep
- Ms. Ruchika Bassan
- Ms. Karmur Rajeshvari Samatbhai
- Ms. Gaonkar Asmita Dileep
- Ms. Sunayna Wadikar
- Mr. Waghchoure Nehal Ashok
- Mr. Apesh Manjunath Gaonkar

-Department of Chemistry

- Mr. Tushar Krishna Honavarkar
- Ms. Prajakta Bhende
- Ms. Kavya Chandra
- Mr. Vivek Ratre
- Mr. Suhas Karle

-Department of Biological Sciences

- Dr. Devendra Gokul Patil
- Mr. Pozhil S N
- Mr. Bhanudas Takale
- Mr. Atul Gavade

-Department of Mechanical Engineering

- Dr. Vivek Rangarajan
- Prof. Sharad M. Sontakke
- Dr. Asima Shaukat
- Mrs. Mamta Satyavan Mestry

-Department of Chemical Engineering

