



# Babasaheb Bhimrao Ambedkar University, Lucknow

Organizes

One Week Training program on DST Supported Advanced Research Instrumentation

August 22-28, 2022

under STUTI Program

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

In collaboration with

Shivaji University, Kolhapur, Maharashtra.



## Chief Patron

Prof. Sanjay Singh  
Vice-Chancellor  
BBAU, Lucknow

## Patron

Prof. Subhini A. Saraf  
Dean, R & D,  
BBAU, Lucknow

## PMU Coordinator

Prof. R.G. Sonkawade  
Shivaji University, Kolhapur, MH

## Coordinator

Prof. B. C. Yadav  
Head, Department of Physics &  
Director, USIC, BBAU, Lucknow

### About BBAU:

Babasaheb Bhimrao Ambedkar University was established by an Act passed by the parliament (No. 58 of 1994). The University came into existence on 10.01.1996 vide GOI, Ministry of HRD, Education Department Notification No. 8-16/GOI/desk/U-1 dated 05.01.1996. The basic philosophy and policies of the University are spelt out and enshrined in the University Act and Statutes. The University offers graduate and post-graduate students the knowledge and skills needed to succeed as persons and professionals, and the values and sensitivity necessary to serve the society. The University distinguishes itself as a socially responsible learning community of high quality scholarship and academic rigor sustained by social justice and equity principles for which Babasaheb Bhimrao Ambedkar worked during his lifetime. The University draws from the cultural, intellectual and economic resources of Uttar Pradesh and other states to enrich and strengthen its educational programs.

### About STUTI:

STUTI stands for Synergistic Training program Utilizing the Scientific and Technological Infrastructure 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 various sophisticated instruments supported by DST, GoI and other funding agencies.

- The participants will get skill based knowledge about the handling of various sophisticated instruments and characterization techniques and its analysis.
- The participants get acquainted with the sophisticated instruments and characterization tools to design and implement for appropriate strategies for research work.

### Course Contents:

The main theme of this training program is to aware of the participants regarding the sophisticated instruments or characterization such as Structural Characterization Technique (XRD, Raman, FTIR, Particle Size Analyzer with Zeta Potential, and TGA-DTA-DSC, Morphological Characterization Technique (TEM, HRTEM, and AFM), Compositional Characterization Technique (ICP-OES, GCMS-MS, and XPS), etc. The training program includes theory lectures as well as Demonstration/Hands on Training on the sophisticated instruments throughout the program.

### Eligibility Criteria for Participants of the Training Program:

- Person of Indian origin;
- Minimum qualification should be Post Graduate (Science) or B.Tech. (Technology)
- Professors/ Scientists/ Post-Doc Fellows/ Ph.D. Fellows/ Industry persons who are actively involved in research and development (R&D)
- Not more than 3 people from one institute per training should be allowed from outside the host institute.*

### Registration Procedure:

- Interested candidates have to fill the online form (link given below) on or before **24/07/2022**.
- Candidates will be selected according to eligibility and available seats. The confirmation of selection will be communicated to the selected candidates on **27/07/2022** by email ([headdap2010@gmail.com](mailto:headdap2010@gmail.com)).

### General Information:

- There is **no registration fee**.
- Mode of the training program is held on **offline mode**.
- Number of participants is limited to 30** and selection will be based on a screening process of their resume.
- Registration Kit, Course material and Certificate of participation will be provided to the participants.
- Local Hospitality (Accommodation & Meal) will be provided. The train fare (**AC 3-Tier**) 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.

**Special Talk Series with Hands-on Training/Demo on Sophisticated instruments at USIC and Dept. of Physics.**

**Registration Link:** <https://forms.gle/H3L1pMdbv8bTXp1P8>

**Last date of Registration:** 24/07/2022

**Confirmation of Selection by mail:** 27/07/2022

**Venue:** Conference Hall, Old Administrative Building, BBA University, Lucknow-226025, U.P., India

### NO REGISTRATION FEE

**Registration Deadline :** 24/07/2022

**Duration of Course :** August 22-28, 2022

**Mode of Training Programme :** OFFLINE

### Organizing Secretaries:

Dr. Devendra Singh (+91-9580016626) & Dr. Khem B. Thapa (+91-9450871807)

For further queries, feel free to contact us on:

Email: [stuti.dopbbau@gmail.com](mailto:stuti.dopbbau@gmail.com); Website: [www.bbau.ac.in](http://www.bbau.ac.in)

# Synergistic Training program Utilizing the Scientific and Technological Infrastructure

Organized by

**Babasaheb Bhimrao Ambedkar University, (A Central University)**  
**Department of Physics, School of Physical & Decision Science**



**22 August - 28 August, 2022**

## PROGRAMME SCHEDULE

Date /Day	Review Session	Technical Session		Technical Session		Head on Training Session		
	09:30-10.00AM	Session-I 10:00 to 11:30AM		Session-II 12:00 to 1:30PM		Session-II 2:30 to 4:00PM	Session-II 4:00 to 5:00PM	
22 August, 2022 Monday	REGISTRATION	Inaugural function	Tea Break (11:30-12:00PM)	Talk –I <b>Prof. R. G. Sonkawade</b> SU, Kolhapur	Lunch Break(01:30-2:30PM)	Talk –II <b>Prof. R K Mandal</b> BHU, VARANASI	Participant Interaction & Overview of the Training Program by <b>Prof. B.C. Yadav</b> , BBAU	
23 August, 2022 Tuesday	Assignment	Talk –III <b>Prof. Absar Ahamad</b> , AMU		Talk –IV <b>Prof. R. G. Sonkawade</b> , SU, Kolhapur		SEM and EDX -Lab		
24 August, 2022 Wednesday	Assignment	Talk –V <b>Dr. P.S. Rajinikanth</b> , BBAU		Talk –VI <b>Dr. Mnaoj Kumar</b> Gupta, CSIR-AMPRI		HPLC Lab / visit Nanomaterials and Sensors Lab		
25 August, 2022 Thursday	Assignment	Talk –VII <b>Dr. Prabhat Dwivedi</b> , IIT Kanpur		Talk –VIII <b>Prof. Sanjay Srivastava</b> NIT, Bhopal		Confocal Microscope Lab		
26 August, 2022 Friday	Assignment	Talk –IX <b>Dr. A K Singh</b> , IIT, BHU		Talk –X <b>Dr. Anupam Sharma</b> , BSIP		XRD Lab		
27 August, 2022 Saturday	Assignment	Talk –XI <b>Prof. Rajiv Prakash</b> , IIT, BHU		Talk –XII <b>Prof. S. Ram</b> , IIT Kharagpur		UV Vis and Fluorescence Microscopy Lab		

Tea Break/Feedback Session

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Organized by  
**Babasaheb Bhimrao Ambedkar University,**  
(A Central University)  
Department of Physics



**22 August – 28 August, 2022**

## PROGRAMME SCHEDULE

S. No.	Talk No.	Speaker	Title of Talk/Activity
1.	Talk-I	<b>Prof. R. G. Sonkawade</b>	Morphological and Structural Characterization using Sophisticated Instruments.
2.	Talk-II	<b>Prof. R. K. Mandal</b>	Various models of Transmission Electron Microscope for structural characterizations
3.	Talk-III	<b>Prof. Absar Ahamad</b>	XPS for characterization of Nanomaterials
4.	Talk-IV	<b>Prof. R. G. Sonkawade</b>	Sophisticated Instruments at SAIF-DST-CFC center, Shivaji University, Kolhapur
5.	Talk-V	<b>Dr. P.S. Rajinikanth</b>	Pre-HPLC
6.	Talk-VI	<b>Dr. Manoj Kumar Gupta</b>	Photovoltaic set-up and Nanogenerator
7.	Talk-VII	<b>Dr. Prabhat Dwivedi</b>	Micro-Nanofabrication: Basic concepts, process and application's
8.	Talk-VIII	<b>Prof. Sanjay Srivastava</b>	DSC/DTA
9.	Talk-IX	<b>Dr. A K Singh</b>	XRD and Rietveld Analysis
10.	Talk-X	<b>Dr. Anupam Sharma</b>	Basic principle of XRF spectroscopy and its applications in natural and synthetic samples
11.	Talk-XI	<b>Prof. Raiiv Prakash</b>	UV and Fluorescence spectroscopy
12.	Talk-XII	<b>Prof. S. Ram</b>	Characterizing nanostructures of smart materials and their potential technologies
13.	Talk-XIII	<b>Dr. A. L. Sharma</b>	Cyclic Voltammetry as a characterization tool
14.	Talk-XIV	<b>Dr. Anjani Kumar Tewari</b>	NMR for internal structure analysis

Tea Break/Feedback Session