



सत्यमेव जयते
Department of Science & Technology
Govt. of India



शरीरमात्रं खलु धर्मसाधनम्



DST STUTI A Hands – on Training Program on Biological Electron Microscopy

Under the scheme of
**Synergistic Training Program Utilizing the
Scientific and Technological Infrastructure (STUTI)**

An initiative by
**Department of Science and Technology
Government of India**

Organized by
**Sophisticated Analytical Instrumentation Facility
All India Institute of Medical Sciences, New Delhi**

**DST-STUTI PMU
Jamia Hamdard, New Delhi**

ABOUT THE PROGRAM

The aim of the training program is to provide a general overview on the use and applications of various instruments and techniques for research students, teachers and personnel from other laboratories, universities and industries; to train technicians for maintenance and operation of sophisticated instruments; and to promote and participate in projects aimed at the development of prototypes of sophisticated instruments or to augment the capabilities of existing instruments. Traditionally, this facility has been developed in the line of EM-related techniques since 1971 and has long-standing experience for the biological sample preparation, and microscope operation and maintenance. It has also equipped with all state-of-the-art Nanobiology facility and expertise with the introduction of quantum dot synthesis facility, cryo-EM facility, cryo-ultramicrotomy, Zeta particles size analyzer, spectro-fluorimeter and spectrophotometers.

DETAILS OF REGISTRATION

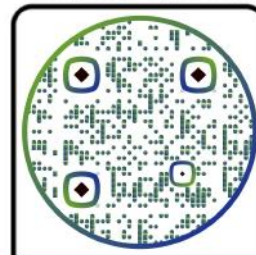
- No Registration Fee
- Limited registrations based on first come first serve
- Participant should be an Indian Citizen
- Research Scholars, Faculty, Scientists, Post-doc, Industry Persons
- Certificates will be provided
- Last date for Registration: 20th August, 2022
- Interested candidates have to fill the form on or before 20/08/22

<https://forms.gle/enHhZAjsnqiDRCvw6>

- Candidates will be selected based on eligibility and availability of seats. The confirmation of selection will be communicated to the selected candidates on or before 20/08/2022
- Max. number of participants allowed : 30
- Local Hospitality (Accommodation & Meal) will be provided.

REGISTRATION

Scan the QR code



CLICK HERE

NO REGISTRATION FEE

**REGISTRATION
DEADLINE
AUG 20, 2022**

CONTACT DETAILS

Prof. (Dr.) Suhel Parvez
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Jamia Hamdard

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ORGANIZING COMMITTEE, AIIMS, NEW DELHI

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"Training program in Biological Electron Microscopy"

Under

Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI), DST, Govt. of India

Sophisticated Analytical Instrumentation Facility

Department of Anatomy, All India Institute of Medical Sciences, Sri Aurobindo Marg,
Ansari Nagar, New Delhi, Delhi 110029

OBJECTIVES OF THE TRAINING CURRICULUM

- ❖ To teach the participants with the principles and applications of transmission and scanning electron microscopy (TEM, SEM)
- ❖ To enable the participants equip with hands on techniques for biological tissue fixation and processing for TEM and SEM
- ❖ To deliver knowledge on section cutting (Ultramicrotomy) for viewing under TEM
- ❖ To enable the participants learn on how to interpret biological cells from electron micrographs

**29 – 04
AUG – SEPT
2022
SAIF, AIIMS
New Delhi**

SOPHISTICATED EQUIPMENT TO BE USED IN THE TRAINING

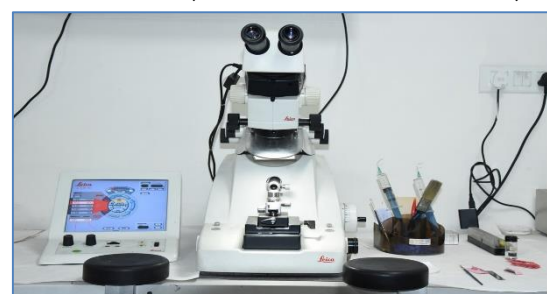


TEM

(TALOS S, Thermo
Fisher Scientific)



SEM (EVO18, Zeiss)



ULTRAMICROTOME

Leica EM UC7

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INVITED SPEAKERS

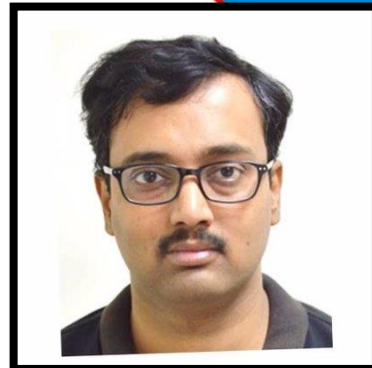
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**Prof. Sujata
Mohanty**
AIIMS, New Delhi



**Prof. Suneel
Kateriya**
JNU, New Delhi



Dr. Gopaljee Jha
NIPGR, New
Delhi



**Dr. Asit Ranjan
Mridha**
AIIMS, New Delhi



**Dr. Vineet
Choudhary**
AIIMS, New Delhi



**Dr. Subhradip
Karmakar**
AIIMS, New Delhi



Dr. Tony G. Jacob
AIIMS, New Delhi

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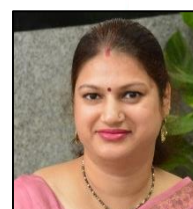
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Department of
Pathology, AIIMS
New Delhi



**Chanda
Panwar**



**Anuraag
Singh**



**Meherban
Singh**



**Madan M
Sharma**



**Pardeep K
Vaishnav**



**Sandeep K
Arya**



Vidhya Shree M

Trainers at SAIF, New Delhi

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विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY

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Azadi Ka
Amrit Mahotsav



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TIME	ACTIVITIES
Monday, August 29	
09:00 – 09:30 am	Registration
09:30 – 10:00 am	Inaugural session
10:00 – 10:30 am	Tea break
10:30 – 11:30 am	Lecture 1: Principles of electron microscopy
11:30 – 01:00 pm	Practical: Specimen preparation
01:00 – 02:00 pm	Lunch break
02:00 – 04:30 pm	Practical: Specimen preparation (secondary fixation)
04:30 – 05:30 pm	Lecture 2: Specimen preparation for TEM
Tuesday, August 30	
09:30 – 10:30 am	Lecture 3: Ultramicrotomy
10:30 – 12:00 am	Practical: Dehydration for TEM samples
12:00 – 01:00 pm	Practical: Infiltration of TEM samples
01:00 – 02:00 pm	Lunch break
02:00 – 04:30 pm	Practical: Infiltration of TEM samples/knife making
04:30 – 05:30 pm	Lecture 4: Staining in EM
Wednesday, August 31	
09:30 – 10:30 am	Lecture 5: Specimen preparation for SEM
10:30 – 01:00 pm	Practical: Embedding for TEM/SEM processing
01:00 – 02:00 pm	Lunch break
02:00 – 04:00 pm	Practical: SEM processing/section cutting
04:00 – 05:30 pm	Lecture 6: Elemental analysis by EDX
Thursday, September 1	
09:30 – 10:30 am	Lecture 7: Ultrastructure of cell
10:30 – 12:00 pm	Practical: SEM processing/section cutting
12:00 – 01:00 pm	Lecture 8: Application of TEM in stem cell research
01:00 – 02:00 pm	Lunch break
02:00 – 04:00 pm	Practical: SEM processing & viewing
04:00 – 05:30 pm	Lecture 9: EM in cilia biology
Friday, September 2	
09:30 – 10:30 am	Lecture 10: Cryo-ultramicrotomy
10:30 – 12:00 pm	Practical: Staining & TEM & SEM viewing
12:00 – 01:00 pm	Lecture 11: Nanotechnology using EM
01:00 – 02:00 pm	Lunch break
02:00 – 04:00 pm	Practical: Staining & TEM viewing
04:00 – 05:30 pm	Lecture 12: Plant cells
Saturday, September 3	
09:30 – 10:30 pm	Practical: Grid coating & negative staining
10:30 – 11:30 am	Negative staining viewing
11:30 – 12:30 pm	Lecture 13: Biomedical application of SEM
12:30 – 1:30 pm	Valedictory & certificate distribution
01:30 – 2:30 pm	Lunch break
02:30 – 3:00 pm	Feedback
Sunday, September 4	
09:00 – 4:00 pm	Feedback/Tutorials/Site Viewing

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