

The details of the programme and application form for participation are available in the website

www.psgias.ac.in

Registration Fee

Rs. 1000/- (including 18% of GST) for students.

Rs. 1250/- (including 18% of GST) for faculty members.

Number of participants is restricted to 60.

<https://forms.gle/AzzRu6az1LpV4a779>

Last date for registration is **28th Dec 2023.**

Bank Account details

Name of the account	PSGIAS
Bank Name	Central Bank of India
Branch	Peelamedu, Coimbatore
Account no.	1481412317
IFSC Code	CBIN0280913
Account type	SB

Contact Details:

HRTEM Facility

PSG Institute of Advanced Studies

Avinash Road, Peelamedu,

Coimbatore - 641 004.

Tel : 0422 4344000, Extn : 4321, 4752.

Email : hrtem@psgias.ac.in

For Queries:

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Co-Ordinators:

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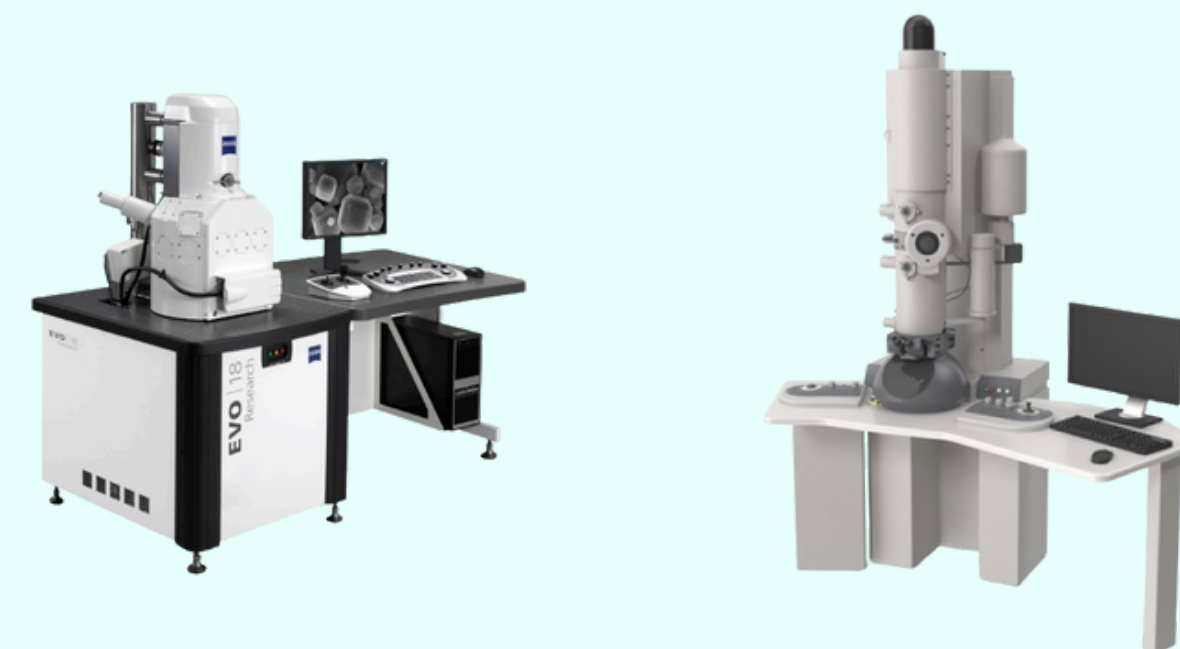
is going to conduct a

One-day Workshop on Electron Microscopy

(Scanning Electron Microscopy

and

High Resolution Transmission Electron Microscopy)



5th January 2024

Organized by

**Electron Microscopy Facility,
PSG Institute of Advanced Studies,
Avinashi Road, Peelamedu,
Coimbatore - 641004.**

PSG INSTITUTE OF ADVANCED STUDIES

Coimbatore 641004

Announces

“One-day Workshop on Electron Microscopy”

(Scanning Electron Microscopy and High Resolution Transmission Electron Microscopy)

Characterization is one of the very essential requirements of material research. PSG institute of Advanced Studies is equipped with state of the art facilities for nanomaterial synthesis and characterization.

Scanning Electron Microscope facility:

Scanning Electron Microscopy (SEM) is a non-destructive technique that uses an electron beam to analyze surface details down to the nano-scale. PSGIAS has Carl Zeiss EVO 18 Scanning Electron Microscope with low vacuum Gatan cryostage and EDAX energy dispersive spectrometer (EDS) . This provides surface topography with a resolution of 200 nm, material composition and distribution of samples ranging from materials science to biology. It has secondary electron and backscattered electron detection systems along with energy-dispersive X-ray spectroscopy for elemental analysis and mapping. It can operate at several acceleration voltages according to the material requirement and is equipped with various analysis techniques of imaging and composition analysis. The facility is also equipped with sophisticated specimen coating equipment for gold and palladium coating.

High Resolution Transmission Electron Microscope facility:

The JEOL JEM-2100 High Resolution Transmission Electron Microscope (HRTEM) provides one of the best-in-class solutions to problems in diverse fields ranging from Materials Science to Biology. The instrument can be operated in several acceleration voltages according to the material requirement and is equipped with analysis techniques such as Bright Field (BF) and Dark Field (DF) imaging, High Resolution Imaging , Selected Area Electron Diffraction (SAED), Energy Dispersive X-ray Analysis (EDS), Nano Beam Diffraction (NBD) and Convergent Beam Electron Diffraction (CBED). The image recording is done with Gatan Orious CCD camera. The HRTEM facility is also equipped with sophisticated specimen preparation equipments to prepare TEM specimens.

About the Workshop:

The main aim of one day workshop on 05th January 2024 at PSG Institute of Advanced Studies is to bring awareness and enrich the understanding about Scanning Electron Microscopy & Transmission Electron Microscopy. The participants will be given a comprehensive understanding about the theory and various techniques involved in material characterization using SEM & HRTEM.

This will be followed by the activities mentioned below.

- Detailed demonstration of the instruments and their usage
- Various analysis techniques
- Specimen preparation
- Training to perform basic level of data analysis

About the resource person

Dr. Anuradha M Ashok, Professor & Head, Department of Physics at PSG Institute of Advanced Studies has expertise in various types, material characterization techniques, theory and data analysis in electron microscopy, X-Ray diffraction, crystallography, and analysis of structure-property relationships. Her research group at PSG IAS is working on development of functional materials and prototype devices for clean energy applications. She is currently in-charge of the electron microscopy and X-Ray diffraction facilities at PSG IAS and has been invited as a resource person to give lectures on these characterisation techniques in several programs.



Tentative Programme Schedule:

08.30AM - 09.00AM	-	Registration
09.00AM - 09.05AM	-	Welcome Address
09.05AM - 09.15AM	-	Introductory Remarks
09.15AM - 10.30AM	-	Theory on Principles, Instrumentation & Analysis techniques of HRTEM and SEM by Dr. Anuradha M Ashok
10.30AM - 10.45AM	-	Tea Break
10.45AM - 12.00PM	-	Lecture on Electron Diffraction by Dr. Anuradha M Ashok
12.00PM - 12.30PM	-	Introduction On Specimen Preparation & Data Analysis
12.30PM - 01.30PM	-	Lunch Break
12.30PM - 01.30PM	-	Data Analysis - Group A
		Demonstration of HR-TEM, SEM & Specimen Preparation - Group B
03.00PM - 03.15PM	-	Tea Break
03.15PM - 04.30PM	-	Data Analysis - Group B
		Demonstration of HR-TEM, SEM & Specimen Preparation - Group A
04.45PM - 05.00PM	-	Concluding Session

*The detail schedule will be given after registration

Convenors

Dr. J. Kanchana
Deputy Director,
PSG IAS

Dr. Anuradha M Ashok
Professor & Head,
Department of Physics, PSGIAS

Co-Convenors

Department of Physics

Dr. Geetha Priyadarshini B, Associate Professor

Dr. Parthiban S, Associate Professor

Dr. Abinash Das, Assistant Professor

Dr. Sebin Devasia , Assistant Professor



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A “One day workshop on Electron Microscopy (High Resolution Transmission Electron Microscopy and Scanning Electron Microscopy)” was conducted by Dept. of Physics of PSG Institute of Advanced Studies on 5 Jan 2024. Dr. Anuradha Ashok, Professor Dept. of Physics and the team of technicians from electron microscopy facility of PSG IAS conducted the workshop which had Faculty members, research scholars and masters’ students from various institutions as participants