VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

Two days Workshop on

Electron Probe Microscopy

(NWEPM-2024)

15th & 16th April 2024

Centre for Functional Materials VIT Vellore

Organized by

Centre for Functional Materials
Vellore institute of Technology
Vellore-632014
Tamil Nadu

Chief Patron

Dr. G. Viswanathan *Chancellor*

Patrons

Mr. Sankar Viswanathan *Vice President*

Dr. Sekar Viswanathan *Vice President*

Dr. G. V. Selvam *Vice President*

Co-Patrons

Dr. V. S Kanchana Bhaaskaran

Vice Chancellor

Dr. Partha Sharathi Mallick

Pro-Vice Chancellor

Dr. T. Jayabharathi *Registrar*

Chair Person

Dr. R. Ezhil Vizhi *Professor & Director CFM*

Convener

Dr. S. Kaleemulla *Asso. Professor*

Co- Convener

Dr. W. Madhuri *Asso. Professor*

Members

Dr. N. Palanisami *Professor*

Dr. Ramesh M Thamankar *Asso. Professor*

Dr. S. Madeswaran *Asso. Professor*

Dr. Ankur Rastogi *Asst. Professor*

Dr. Atul Thakre *Asst. Professor*

About workshop

Centre for Functional Materials, Vellore Institute of Technology is organizing a two days National workshop on electron probe microscopy during 15-16th April 2024. The aim of two days workshop is to bring awareness and enrich the understanding about material characterization by advanced characterizations techniques. The workshop will bring together participants from various academic, research and industries to offer practical knowledge on advanced characterization techniques from basics to applications. This workshop will form an excellent platform for multidisciplinary interactions and new collaborations. It will be a great learning experience for the research scholars, interaction with experts in various instrumentation techniques and gain sound knowledge in SEM, TEM, STM, AFM , XPS and Nano-Indentation.

About VIT

Vellore Institute of Technology was founded in 1984 as Vellore Engineering College by the honorable chancellor Dr. G. Viswanathan. The institution has grown steadily since its humble beginning. VIT attracts students from all over India and more than 50+ countries because of its excellence.. Quality in teaching-learning, research and innovation make VIT a unique place to learn. The credentials in academics and research have placed VIT in the 12th position among the engineering institutions in India by NIRF, Govt. of India. VIT is Ranked within the top 200 in Asia (QS - Asia University Rankings 2022.

About CFM

The Centre for Functional Materials (CFM) at VIT, Vellore was established in Nov 2020. The Centre prioritizes the research of national interest by highlighting new findings and discussing current trends in technologically reverent topics. Here, we explore different classes of functional materials ranging from semiconductors to polymers and molecular crystals to nanoparticles. CFM has also provided various state-of-the-art characterization facilities like optical micro hardness, gas sensing, dielectric, electrical studies, etc. The Centre has gained attention due to its immense publications in the diverse fields of research in functional materials. CFM is offering a platform to connect a broad range of materials with focused research groups and support multidisciplinary research necessary for technology transfer. The Centre implements its mission via activities in research and education.

Facilities at CFM

Pulsed Laser deposition,
DC and RF sputtering
Thermal & Electron Beam Evaporation
Electrochemical workstation
UV Lithography
For more details please visit:
ttps://vit.ac.in/centers/cfm

Resource persons

Title: Probing the correlation between electronic and magnetic properties of transition metal oxides using photoelectron emission spectroscopy

Dr Ram Janay Choudhary, *Scientist G, UGC-DAE CSR, Indore*

Short Bio: Dr Ram Janay Choudhary currently working as Scientist-G at UGC- DAE SCR Indore. He completed Ph.D. from University of Pune. He is also in charge of lab facilities such as PLD, SQUID-VSM, magneto-dielectric and AIPES beam line at Indus-1 synchrotron source at RRCAT. He received DAE Young Scientist Award in 2013, DAE Group achievement award in 2017, MRSI Medal Award in 2022. His research area include Probing electronic correlation effect on electrical, magnetic and magneto-transport properties of transition metal oxides thin films and hetero-structures using a combined study of XANES, XMCD and resonant photoemission spectroscopy. He has awarded 11 Ph.D. and published 364 research articles in peer reviewed journals. He has awarded 11 Ph.D. and published 364 research articles in peer reviewed journals.

Title: Transmission electron microscopy: Introduction and analytical capabilities

Dr. Bharati Patro

Technical Officer at SAIF/CRNTS, IIT-Bombay

Short Bio: Short Bio: Dr. Bharati Patro, completed her M.Sc. in Physics from Mumbai University and completed her Ph.D. from the Centre for Research and Nanotechnology and Sciences (CRNTS), IIT-Bombay in 2019. Her Ph.D. thesis was on Photovoltaic Materials and was entitled "Synthesis and characterization of CZTS material and thin film for photovoltaic applications. Dr. Bharati joined the Electron Microscopy Facility at Sophisticated Analytical Instrument Facility (SAIF), IIT-Bombay in 1997 after her M.Sc. At present Dr. Bharati is a Technical Officer at SAIF/CRNTS and is the Officer in Charge of Transmission Electron Microscope Facilities at the Centre which has been extensively used to carry out research in cutting edge edge technologies by research scholars, faculties, and scientists from academia, industries, and government laboratories all over India.

Title: Exploring Scanning Electron Microscopy: Principles, Advancements and Applications

Mr. Murugan A

Scientist C, CMTI, Bengaluru

Short Bio: Dr. Murugan Angamuthu, is currently working as Scientist C at Central Manufacturing Technology Institute, Bangalore. He got his undergraduate (B.Sc.) and postgraduate (M.Sc.) degree in Physics from Periyar University and Bharathidasan University respectively. He was appointed as Scientist-B in 2012. Currently he is the officer-in-charge of Nanomaterial Characterization Laboratory and laboratory-in-charge of electron microscopes (FESEM+FIB, HRTEM) & Sample Preparation Laboratory. He is also coordinating training courses and faculty services for "Electron Microscopy and Analysis" and "Microscopy and Analysis". He is expertized in Focused Ion Beam Machining Functional Nanomaterials, Nanoimprint Lithography, Nanopatterns by Anodic Oxidation and 2D Nanostructures. He has been working on SEM for more than a decade. .

Title1 : Surface characterization using Scanning Probe Microscopy (STM & AFM)

Title2: Nano-Indentation: Micro & Nano mechanical characterization technique

Ms. Sarmistha Dhan

Scientist C, CMTI, Bengaluru

Short Bio: Ms. Sarmistha is an expert in advanced material characterization, surface metrology by Scanning Probe Microscopy (STM&AFM) and mechanical characterization at nano scale by Nanoindentation. Supervising and mentoring the characterization and analysis activities of various tools like Optical profilometry, Ellipsometry, Confocal microscopy and Raman Spectroscopy. Have an experience of 13 years in advance nano material characterization and analysis of a plethora of different types of samples and supporting R&D activities of various National & Multinational companies, public & strategic sectors. Also, she involved in quality checks & work management of testing and certifying activities for catering to various Govt. of India organizations. She has coordinated several courses and workshops on Advance Material Characterizations. She has published several research articles.

Registration and Payment link

https://events.vit.ac.in/

Registration Fee

Research Scholar	Rs.1200/-
Faculty	Rs.1500/-
Industry	Rs.1500/-
Registration starts on	30-03-2024
Last date for payment	10-04-2024
Participation confirmation	11-04-2024

Participation confirmation is on first come first serve basis. The seats are limited to maximum of 100.

Registration fee include registration kit, lunch & dinner (Day 1), break fast and lunch (Day 2) and participation certificate

Accommodation

Accommodation can be provided in the hostels (dormitory) based on request.

The tentative tariff for the dormitory

Gents Hostel: Rs. 500 (per day)

Ladies Hostel: Rs. 500 (per day)

Contact Information

Dr. S. Kaleemulla Convener

Dr. W. Madhuri Co-convener

Centre for Functional Materials

Vellore Institute of Technology

Vellore – 632 014. Tami Nadu

Ph: 9003386732 (kaleem@vit.ac.in)

8754548779 (madhuri.w@vit.ac.in)