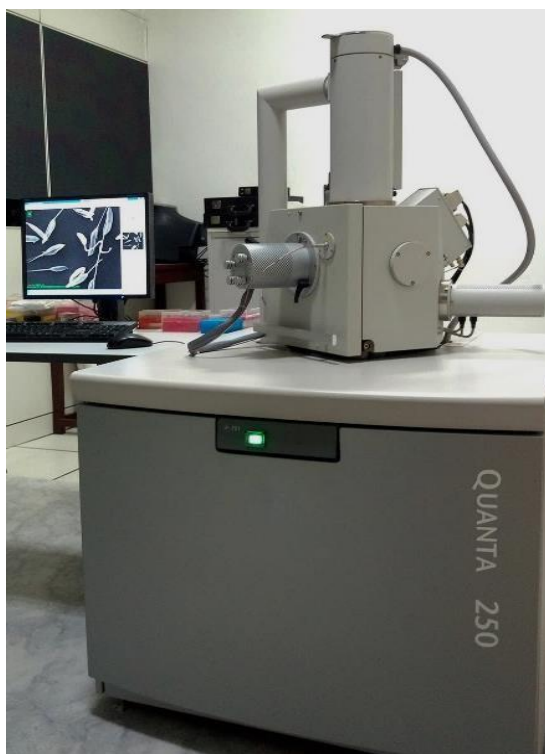




## **4<sup>th</sup> National Workshop on “Applications of Electron Microscopy in Life Sciences”**

**23-25 Sep 2020**



**Organized by CSIR-CDRI**

- **About CSIR-CDRI:**

CSIR- Central Drug Research Institute (CSIR-CDRI), a premier drug research institute of India was established in 1951 by the then Prime Minister of India Pt. Jawaharlal Nehru with a vision to strengthen and advance the field of drug research and development in the country. Today, the new campus at Jankipuram, Lucknow has everything under one roof, from synthesis, screening, development studies, process up-scaling to clinical studies. Unique achievements of the Institute include discovery and development of 12 new drugs, of which, Arteether (Brand Name: E-mal), BESEB (Brand Name: Memory Sure), Centchroman (Brand Name: Saheli) are currently in the market; transferred more than 130 indigenous technologies to the pharmaceutical companies. The Electron Microscopy laboratory at CSIR-CDRI has a long history, experience and expertise in the field of EM spanning over 50 years. The EM lab was set up in the late 1960s under the Biophysics Division at the old Chattar Manzil campus and was one of the first labs in the country to have EM expertise for R&D applications. We look forward to welcoming you to our new campus and wish you a fruitful learning experience at our state-of-the-art EM lab.

- **Workshop overview:**

This three-day workshop is aimed at enhancing the knowledge and skill-set of students, research fellows, faculty and staff working in the area of life sciences and would include both theory and practical sessions. The focus would be on various techniques, applications and their sample preparation methods with intensive practical sessions including hands-on sessions. Latest developments especially in the area of Cryo-EM will be discussed and the course would also cover basic TEM/SEM operation and maintenance/troubleshooting issues. At the end of the workshop, participants are expected to appreciate the basics of TEM/SEM along with the ability to integrate EM tools/experiments in the workflow of their research projects by selecting the appropriate technique from a variety of available techniques and then optimizing it for obtaining the best solution for their research problems. Small number of participants will be ensured to encourage close interaction and lively discussions.

- **Areas to be covered:**

Sessions would cover TEM & SEM principles and applications, practical sessions on TEM & SEM sample preparation techniques including negative staining, cell/tissue embedding, ultra-microtomy, imaging and recording data and image interpretation.

- **Faculty:**

- Dr. A. N. Ghosh (ICMR Emeritus Scientist, ICMR-NICED, Kolkata)
- Dr. Tetsuo Oikawa (Senior Product Manager for TEM, JEOL Asia, Singapore)
- Dr. Kalyan Mitra (Principal Scientist, CSIR-CDRI, Lucknow)

- **Eligibility:**

B.Sc./M.Sc./B.Tech/M.Tech/Ph.D. students, young researchers from academic institutions and private organizations/industry staff

- **Participants/Criteria of selection:**

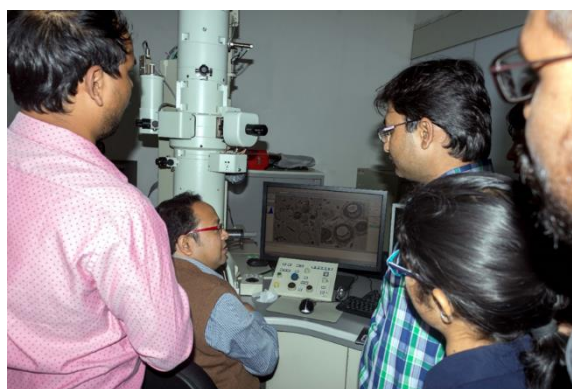
10 participants will be selected on a “first-come, first-served” basis, therefore we recommend that you contact us at your earliest convenience. Preference will be given to ensure participation of as many institutions as possible with not more than two participants from a single institution. Decision of the selection committee will be final.

Registration Fees	Upto 2 <sup>nd</sup> Sep 2020	After 2 <sup>nd</sup> Sep 2020
Students	10,000	10,500
Faculty/Staff	12,000	12,500
Private Organizations/Industry	20,000	20,500

- How to Apply:**  
 Scanned copies of Registration form and DD should be emailed to [k\\_mitra@cdri.res.in](mailto:k_mitra@cdri.res.in). Complete registration form along with DD should also be sent by post to correspondence address. Bank Draft should be drawn in favour of "Director, Central Drug Research Institute, Lucknow" Payable at Lucknow.
- Correspondence:** All correspondence should be addressed to –  
 Dr. Kalyan Mitra,  
 Principal Scientist & Organizing Secretary,  
 In-Charge Electron Microscopy Unit,  
 Sophisticated Analytical Instruments Facility & Research,  
 Lab No. SEN-G2,  
 CSIR-Central Drug Research Institute,  
 Sector 10, Jankipuram Extension, Sitapur Road,  
 Lucknow 226 031 (U.P.)  
 Email: [k\\_mitra@cdri.res.in](mailto:k_mitra@cdri.res.in)
- Instruments available for workshop:**  
 JEOL JEM 1400 TEM equipped with Gatan CCD cameras; FEI Quanta 250 SEM; Leica Ultramicrotome; Quorum Tech high vacuum evaporator; Emitech glow discharge unit; Balzers Union/Quorum Critical Point Dryers and other sample preparation equipments. Interested participants will also have an opportunity to visit the state-of-the-art confocal microscopy, NMR, Mass Spectrometry and flow cytometry facilities at CSIR-CDRI.
- Accommodation/Food:**  
 We will try to provide accommodation at CDRI Guest House (if available) on payment. Working lunch and tea/snacks will be served.



**Some photographs from past workshops**





**ELECTRON MICROSCOPY UNIT (SAIF-R)**  
**CSIR-Central Drug Research Institute, Lucknow**

**4<sup>th</sup> National Workshop on “Applications of Electron Microscopy in Life Sciences” Organized by CSIR-CDRI**  
**23 – 25 Sep 2020**



**Registration Form**

Name: \_\_\_\_\_

Date of birth: \_\_\_\_\_ Gender: M/F \_\_\_\_\_

Designation: .....

E-mail: \_\_\_\_\_

Educational Qualification: \_\_\_\_\_

Department/Institute: \_\_\_\_\_

Address for Communication: \_\_\_\_\_

Research interests and purpose of attending this workshop: \_\_\_\_\_

Guest House Accommodation (if available): Required / Not required

Mobile: .....

**Payment details:**

Amount Rs: ..... DD No\*: ..... Date: .....

Bank: .....

Signature of the Candidate

Signature of Head/Supervisor

**\*Scanned copy of duly filled form with DD should be emailed to: [k\\_mitra@cdri.res.in](mailto:k_mitra@cdri.res.in)**

**\*Hard copies of form and DD should be posted to Corresponding Address**

Paste Photo