



Training on
ANALYTICAL TECHNIQUES AND INSTRUMENTATION FOR WATER
QUALITY ASSESSMENT

Venue: CSIR-CMERI, Durgapur

Date: June 28 – 30, 2022



CSIR-Central Mechanical Engineering Research Institute (CSIR-CMERI), the only national laboratory dedicated to Mechanical Engineering, carry out dedicated research and development over a broad spectrum of mechanical engineering and allied disciplines of science and technology. The Environmental Engineering Group from CSIR-CMERI carry out dedicated R&D efforts towards clean water technology, water testing, water purification technology etc. The group has developed iron, arsenic and fluoride filters for both domestic and community levels, a number of which have been commercially exploited through licenses. The water testing facility is recognized by the WB pollution control board (WBPCB) and recently inaugurated by Dr. Subhas Sarkar, Hon'ble Minister of State for Education, Govt. of India.

Over large parts of the world, rivers, lakes and other water bodies show increasing trends of water pollution, especially for developing countries under economic expansion and increasing population sizes. Assessment of the physical, chemical and biological water quality is essential for the reduction of freshwater pollution. Therefore, sustainable water quality assessment and monitoring programs should be aimed at integrating the various steps in the monitoring cycle, from the information needs, field and laboratory procedures up to data collection and processing.

Objectives of the Training:

- To aware about water related issues [water conservation, water pollution, water quality parameters (for drinking and waste water) and their testing, water related diseases etc.]
- Hands-on training on testing of water quality parameters by using sophisticated analytical instruments.
- Integrating various steps in the monitoring phase, from the theoretical knowledge, laboratory test procedures up to data collection, characterization and assessment.

With emphasis on practical application driven training, this program provide in-depth exposure to the scientific concepts, working principles, implementation methodology and hands-on experience on water quality assessment. After successful completion of this training, participation certificate will be provided to the participants. This training may help the participants in their career prospects.

Training Covered:

- **Water Quality:** To understand and apply concepts of water quality and pollution processes in waterbodies and to gain knowledge on factors affecting the water pollution.
- **Water Quality Assessment:** To understand and apply standard procedures to test various water quality parameters (TDS, hardness, pH, residual chlorine, alkalinity, sodium, potassium, arsenic, iron, fluoride, chromium, nickel, lead, zinc, phenol, oil & grease, BOD, COD, total coliform, E. coli etc.) by using sophisticated instruments like Atomic Absorption Spectro-photometer with GFS, UV-VIS spectrophotometer, Flame photometer etc.
- **Data handling and presentation:** Water quality data evaluation and design sustainable water quality monitoring and assessment programs under specified conditions.



Training structure: Participants complete the training in a period of 3 days with a workload of 4 hours of theory and 20 hours of hands-on training of water and wastewater training following standard procedures. Participants with an ongoing or completed 10+2 Diploma, Bachelor/Master degree or equivalent in science and engineering or a related discipline can apply.

Course Fee: Rs. 1000/-

Contact Details: Interested participants kindly contact for registration: **Dr. Biswajit Ruj, Chief Scientist / Dr. RR Sahoo, Head and Principal Scientist Environmental Engineering Group, CSIR-CMERI, Durgapur-713209.**
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Water is life's matter and matrix, mother and medium. There is no life without water--: Albert Szent-Gyorgyi

The participants shall have to follow the standard protocols to prevent the spread of COVID-19 during the training. Nobody shall be allowed inside with fever or any visible symptoms of COVID-19. Participants will have to produce Final Covid vaccination certificate.