ONLINE TRAINING PROGRAMS ON ENVIRONMENT
(2020-2021)

Call For Registration/ Nomination

Organized by

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CSIR-NATIONAL ENVIRONMENTAL ENGINEERING INSTITUTE
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ABOUT CSIR-NEERI:

The CSIR-National Environmental Engineering Research Institute (CSIR-NEERI) is a research institute created and funded by Government of India. NEERI is a pioneer institute in the field of environmental science and engineering and is constituent laboratory of Council of Scientific and Industrial Research (CSIR). The institute is devoted to research and innovations in environmental science and engineering besides solving a range of problems posed by industry, government and public. Currently, the institute, in line with the vision mission and policy of CSIR, delineated thrust areas for R&D comprising of Air Pollution Monitoring and Control, Water Technology and Management, Climate Change, Cleaner Technology and Modelling, Energy and Resource Management, Environmental Biotechnology and Genomics, Environmental Health, Environmental Virology, Environmental Impact and Risk Assessment, Environmental Materials, Solid & Hazardous Waste Management, Strategic Urban Management and Wastewater Treatment Technology. Presently, CSIR-NEERI is functioning with Headquarter at Nagpur and five Zonal Laboratories located at Mumbai, Delhi, Kolkata, Chennai and Hyderabad where we showcase and interface with stakeholders through our strength of science and technology.

ABOUT TRAINING PROGRAMS:

India is becoming one of the world’s fastest growing knowledge-based economies. The change in both industrial growth and quality of life (urbanization) brings environmental concerns and also demands shift in the work-force from primary to secondary and tertiary sectors. Industrialization, population growth and urbanization cause degradation of the environment. Air, Water, Land pollution and degradation of natural resources are major environmental problems of India. Lack of appropriate manpower in field of environmental science and engineering is one of the major issues. Training and Capacity Building in the field of environmental science & engineering is urgent need of the time to provide qualified manpower in environment. Besides, it is also essential to further develop the skills and professionalism of persons working in the field of environment to improve the competence of the organizations/Institutes. Despite the emphasis and stress laid on education and training in this country in environment, there is still a shortage of skilled manpower and professionals to address the mounting needs and demands of the industries/organizations/companies, etc. In this background, CSIR-NEERI has identified training, skill development and capacity building as one of the priority areas and has taken up several initiatives to meet the challenges of expansion of training capacity with high quality standards aimed at sustainability. Various training programs have been conducted so far involving participants from MoEFCC, CPCB, SPCBs, Govt. Organizations, Industries, Consultants, Academicians, Researchers, Students, etc. Under CSIR Integrated Skill Initiative; CSIR-NEERI proposes number of training programs in Environment science and engineering as detailed in subsequent pages.

CUSTOMIZED TRAINING PROGRAM:

Customized online training programs can also be organized on any particular topic of Environment science & engineering as per requirement of user organization. For details, please contact Dr. Harshvardhan Singh, Senior Principal Scientist & Head; Training, Skill Development & Capacity Building (TSDCBG), CSIR-NEERI, Nagpur. Email: skill.neeri@neeri.res.in Phone: +91-712-2249885 / 7972256980 (M)

WHO SHOULD ATTEND:

- Officials of Government organization, industry, public sector, consultants etc. dealing with Environment
- Academicians, Researchers & Students.
- Any citizen having interest in field of Environment.
Online Training Program on "Metagenomics and Environmental Pollution Control"
October 5, 2020

OBJECTIVES

The proposed training program on Metagenomics and Environmental Pollution Management is broadly intended to provide insights and knowledge required for implementation of molecular tools to study the microbial communities response to environmental issues. This training module aims at providing the participants with following details:

- Theoretical basics of metagenomics for a better understanding of role of microbial communities in an environment.
- Environmental Case studies for application of metagenomics.
- Priming participants for Metagenomic Analysis.
- Prospects and Application of metagenomics tools to address the environmental issues.
- Group Discussions.

COURSE CONTENTS

- Metagenomics – A tool to study microbial community response – Basics
- Next Generation Sequencing basics for Metagenomics
- Advance tools of NGS tools to study metagenomics
- Case Studies-
- Microbial Diversity studies for different Ecosystems
- Custom microbial gene profiling of different environments

MODE OF TRAINING

MS Team platform will be used to conduct online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹1,000+18% GST.

CERTIFICATE OF PARTICIPATION:
CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.

LAST DATE OF REGISTRATION: SEPTEMBER 29, 2020
OBJECTIVES

Learning of air quality management involves understanding in multidisciplinary subjects namely atmospheric science, fluid mechanics, thermodynamics, mathematics, statistics and engineering. This will enhance the knowledge of participants for emission inventory, air quality monitoring, source monitoring, dispersion and receptor modelling followed by source apportionment. This particular training aims to create the basics for all these outcomes.

COURSE CONTENTS

- Fundamentals of Air Pollution: Types of air pollution source, its effect on plant, human and material, case studies for each.
- Regulatory parameters of ambient air quality monitoring, measurement of Gaseous pollutants, SO$_2$, NO$_x$, NH$_3$, CO, O$_3$ for regulatory requirements, Calibration curve.
- Monitoring of Particulate matter for regulatory compliance, research samplers, and demonstration of sampler using video.
- Source Monitoring: Operation of stack monitoring kit, Pitot tube, pressure measurement, Isokinetic sampling, regulatory monitoring, NO$_x$ and SO$_2$ measurement.
- Environmental Meteorology-I: role of meteorological parameter in dilution of pollutant in atmosphere, inversion, lapse rate, planetary boundary layer phenomena, wind rose, monitoring equipment.
- Environmental Meteorology - II: climate and weather, katabatic and anabatic winds, valley wind, land-sea breeze, B-V frequency, meteorology responsible for plume behavior.
- Environmental Statistics, types of distribution, t-test, ANOVA.
- Emission Inventory: Point, area, line, a case study of urban area in 2 km x 2km grid wise detail.

MODE OF TRAINING

MS Team platform will be used to conduct online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹2,000 + 18% GST.

CERTIFICATE OF PARTICIPATION:

CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.

LAST DATE OF REGISTRATION: SEPTEMBER 29, 2020
Online Training Program on
"Water: Quantity and Quality Aspects"
October 20 - 21, 2020

OBJECTIVES
To make water professionals aware about qualitative and quantitative aspects of water. 2. To make them aware about water treatment technologies available for removal of different contaminants.

COURSE CONTENTS
- Introduction to Water Quality and Water Quality Standards.
- Reconnaissance Survey and Network Design.
- Collection & Preservation of Samples and Field Analyses.
- Water Quality Parameters: Physico-chemical, Bacteriological.
- Water Quality Parameters: Heavy Metals.
- Emerging pollutants in water.
- Instrumentation: Calibration and Maintenance.
- Water Quality Monitoring & Surveillance.
- NABL Accreditation of water testing laboratories.
- Water quality data analysis and management.
- Preparation of water safety plan.
- Preparation of water security plan.
- Water treatment technologies for geogenic contaminants.
- Water Treatment Plant: Unit operations and maintenance.
- Geophysical techniques in water resource management.

MODE OF TRAINING
MS Team platform will be used to conduct online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹2,000 + 18% GST.

CERTIFICATE OF PARTICIPATION:
CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.

LAST DATE OF REGISTRATION: OCTOBER 13, 2020

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OBJECTIVES
Land is one of the important natural resource, which provides food, fuel, fodder and timber to us. Unfortunately, in past several years, rapid increase in industrialization, urbanization and indiscriminate land use resulted extensive degradation of land in the country. In India, population explosion, intensive cultivation, industrialization, urbanization, deforestation, over-grazing, shifting cultivation, mining activities are the major causes of land degradation. The advent of Green revolution in mid-sixties has led to increased use of chemical fertilizers and pesticides which has not only polluted the atmosphere but also has caused an significant decline in floral and faunal population of the soil, which are responsible for the maintenance of soil fertility. This has resulted in a decline in land productivity. Hence, any undesirable change in the basic composition of soil is called “soil pollution” which poses serious threat to human and environmental health. CSIR-NEERI has vast experience in the field of soil quality assessment and successful implemented soil remediation technologies for various private, public and state central government agencies in different parts of the country.

COURSE CONTENTS
• Categories of Indian Soils.
• Collection and Preservation of Soil Samples.
• Preparation of Soil Samples for Laboratory Analysis.
• Soil Quality Parameters: Physical, Chemical and Biological.
• QA/QC Procedure in Analysis, Accuracy, Precision and Concepts of Uncertainty Measurement.
• Preparation of Soil Test Report.

MODE OF TRAINING
MS Team platform will be used to conduct online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹1,000+18%GST

CERTIFICATE OF PARTICIPATION:
CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.

LAST DATE OF REGISTRATION: November 01, 2020.
OBJECTIVES

The proposed training program on Health Assessment from secondary and primary health data is broadly intended to provide perspective, insights and knowledge required for effective and efficient assessment of health and environment. The specific aim of the training program is to enhance the capacities of the participants in Health Assessment. The major objectives are:

- Environmental assessment (AIR, WATER AND SOIL) (theory and demonstration).
- Assessment of Health data available with hospitals and other agencies (Secondary health data).
- Assessment of Health data through collection from population in the form of Questionnaire (Primary health data).
- Correlation of the Health data with the Environmental pollutants.
- Interpretation of data and reporting.

COURSE CONTENTS

- HHRA Software and its application.
- Ambient Air Quality Monitoring, Analysis and Reporting.
- Water Quality – Monitoring, Analysis and Reporting.
- Soil Quality Parameters.
- Toxicity Studies of Pollutants using OECD Protocols (In Vitro and In Vivo).
- Socio-Economic Aspects.
- Health assessment including Risk Assessment.

MODE OF TRAINING

MS Team platform will be used to conduct online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹3,000+18%GST.

CERTIFICATE OF PARTICIPATION:

CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.

LAST DATE OF REGISTRATION: November 17, 2020
OBJECTIVES

The proposed training programme on Remote Sensing and Modeling for Environmental Systems is broadly intended to provide insights and knowledge required for implementation of advanced tools such as ArcGIS and Data Analytics for providing solution to environmental issues. This training module aims at providing the participants with following details:

- Theoretical understanding of remote sensing and data analysis methods
- Data Gathering and Basic Analysis
- Environmental Case studies for application of remote sensing and modelling
- Prospects and Application of above advanced tools
- Group Discussions

COURSE CONTENTS

- Understanding basics of remote sensing and modelling
- Downloading and extracting satellite data
- Tools for Remote Sensing Assessment
- Basics of Modelling Tools for Environment
- Case Studies

MODE OF TRAINING

MS Team platform will be used to conduct online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹1,000 + 18% GST.

CERTIFICATE OF PARTICIPATION:

CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.

LAST DATE OF REGISTRATION : NOVEMBER 25, 2020
OBJECTIVES
Impact Assessment is broadly intended to provide perspective, insights and knowledge required for effective and efficient management of environment. The specific aim of the training program is to enhance the capacities of the participants in EIA. The main objectives are:

• Exposure to all aspects of EIA (theory and practical both) For a better understanding
• EIA process-screening, scoping, data collection to impact assessment, role of public consultation etc.
• Specific reference to the environmental and social impacts Of the industrial and developmental projects
• Reviewing EIA reports and identifying its strengths and weaknesses
• How to enhance ability regarding playing active role in post-EIA monitoring
• New possibilities for EIA/EMP using appropriate S&T Tools
• Application of Scientific tools in Environmental Impact Assessment Projects to address the sensitive environmental issues
• How to delineate pragmatic Environmental Management Plans & Group Discussions

COURSE CONTENTS
• Environmental Impact Assessment (EIA) : Introduction & International Practices
• EIA Audit and baseline environmental quality
• Ambient Air Quality Monitoring, Analysis and Reporting
• Air Pollution Modelling, Meteorology, Dispersion of Stack and Fugitive Emissions
• Air Pollution Mitigation and Control Systems
• Water Quality – Monitoring, Analysis and Reporting, Hydrogeology, Groundwater Pollution and Fate and Distribution of Pollutants in Groundwater
• Water Management, Socio-Economic Aspects
• Noise and Vibration – Monitoring, Modelling and Management Plans
• Soil Quality Parameter, Soil Erosion and Soil Conservation Plans
• Solid & Hazardous Wastes – Characterization, Classification, TCLP, Transport and Management – Guidelines and Regulations of SHW
• Bio-diversity studies for Terrestrial and Aquatic Ecosystems – Forest and Wildlife Clearance - Eco-sensitive zones
• Risk Assessment and Hazard Management
• Advance tools of EIA (GIS modelling, Biodiversity modelling and Social assessment)
• Environmental Management Plans for different Sectors

MODE OF TRAINING
MS Team platform will be used to conduct online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹5,000 + 18% GST
CERTIFICATE OF PARTICIPATION:
CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.
LAST DATE OF REGISTRATION: November 30, 2020
Online Training Program on
"AIR QUALITY MONITORING FOR KEY AIR POLLUTION PARAMETERS"
December 16 - 18, 2020

OBJECTIVES
Air quality monitoring is one of the key tools of any air quality management plan. The proposed training program on air quality monitoring is broadly intended to provide perspective, insights and knowledge required for robust assessment of air pollutant concentration of any location. The specific aim of the training program is to enhance the capacities of the participants in monitoring the air pollution level. The main objectives are

- Understanding the importance of monitoring for air quality management plan.
- Understanding theoretical knowledge of all the monitoring methods of all key air pollutants.
- Understanding the working of advanced instrumentations use in air quality monitoring
- Interpretation and data analysis of the monitoring result and reporting

COURSE CONTENTS
- Fundamental of air pollution Monitoring and its importance
- Air Pollution Monitoring: Manual vs. Continuous Monitoring Systems – Data Reliability Issues
- Theory and Online demonstration of Air Quality Monitoring Instruments (PM Samplers, Gaseous Samplers); Air Quality Lab Instrumentation (ICP, IC, GC & EC/OC) and Bio-aerosol Monitoring and Plating
- Lecture on Ambient Particulate Matter (PM10 & PM2.5) Monitoring (Sampling, Principles, Analysis & Calculation, QA/QC, Data Analysis & Interpretation)
- Lecture on Ambient Gaseous Pollutant (SO2, NO2, NH3, CO and O3) Monitoring (Sampling, Chemical Analysis & Calculation, QA/QC, Data Analysis & Interpretation)
- Heavy Metal Analysis of Particulate Matter (Principle, Procedure, QA/QC, Data Analysis & Interpretation)
- EC/OC Analysis of Particulate Matter (Principle, Procedure, QA/QC, Data Analysis & interpretation)
- Monitoring of Meteorology and wind rose diagram preparation
- Ambient Volatile Organic Compounds - Sources, Monitoring and Control with QA/QC
- Bio-Aerosol Sources and Monitoring (Principle, Procedure, QA/QC, Data Analysis & interpretation)
- QA/QC, Statistical Data Analysis & interpretation, Application of data

MODE OF TRAINING
MS Team platform will be used to conduct online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹3,000 + 18% GST

CERTIFICATE OF PARTICIPATION:
CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.
LAST DATE OF REGISTRATION: December 9, 2020
Online Training Program on
"Bio Remediation And Bioprocess Optimization For Organic Waste"
January 7, 2021

OBJECTIVES
Main objective of the program is to provide knowledge of techniques on ‘Bioremediation and Bioprocess Optimization for Organic Wastes’. The program will provide participants with opportunities to discuss aspects of their work with others and update their skills and knowledge.

COURSE CONTENTS
- Genomic tools in bioremediation and bioprocess optimization
- MSW management: Anaerobic digestion for organic waste management
- Anaerobic bioprocess: Methanogens and Methanotrophs
- Kitchen and vegetable waste management: A case study in GVAK, Deolapar
- Introduction to environmental biofilms: bioremediation perspective
- Fluorescence in situ hybridization (FISH) assay in detecting pathogens from environmental biofilms
- Microbial Biofilms as tool for screening of antiquorum sensing molecules
- Biofouling: issues and challenges in water industry

MODE OF TRAINING
MS Team platform will be used to conduct online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹1,000 + 18% GST

CERTIFICATE OF PARTICIPATION:
CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.

LAST DATE OF REGISTRATION: December 31, 2020

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OBJECTIVES

The ecology and biodiversity is a challenging and skillful studies require expertise in flora and fauna of terrestrial and aquatic system. Any change in the ecological component causes harm to the keystone species of developing area. Therefore, while conducting the baseline status it is very essential to understand the ecological processes and its stability. Stakeholders working in EIA have to face problems in protecting the species which require complete understanding of ecological niche. Therefore, to strengthen the capacity of stakeholders to manage with the ecological problems and to enable them to play their role and shoulder their responsibilities effectively, a training program has been proposed. The professionals working in this sector need to be sensitized with the knowledge/skill and attitude through a proper training.

COURSE CONTENTS

• Introduction to the basics of Ecology and Biodiversity
• Principals and concepts of biodiversity laws.
• Biodiversity Act 2002, Wildlife protection act
• IUCN category of plant listing and species of Red data book
• Phytosociological studies of flora
• Calculation of Index and interpretation of results
• Role of invertebrates as an ecological indicator
• Planktons: Zooplankton and Phytoplankton: an ecological indicator
• Sampling, identification by microscopic studies and index calculation
• Study of trophic status of lakes
• Study of biomonitoring of benthos
• Sampling, identification by microscopic studies and index calculation
• Prediction of impacts
• Greenbelt Development plan
• Case study on greenbelt development on highway
• Role of bamboo plantation for greenbelt development

MODE OF TRAINING
MS Team platform will be used to conduct online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹3,000 + 18% GST

CERTIFICATE OF PARTICIPATION:
CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.

LAST DATE OF REGISTRATION: January 12, 2021

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Online Training Program on
"Water Literacy"
January 27-28, 2021

OBJECTIVES

The proposed training programme on Water Literacy is broadly intended to provide environmental awareness related to water aspects to society, citizen participation and responsibility awareness in matters related to water conservation, preservation of natural sources, women empowerment etc.,

This training module aims at providing the participants with following details:

- Water quality and Standards
- Water supply and security
- Climate change effects
- Recycle and water market
- Group Discussions/ quiz/ lab visit/ videos

COURSE CONTENTS

- Water quality and Emerging contaminants
- Drinking water standards, water borne diseases essential minerals
- Climate Change and Predictable Effects
- Water treatment and security

MODE OF TRAINING

MS Team platform will be used to conduct online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹2,000 + 18% GST.

CERTIFICATE OF PARTICIPATION:

CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.

LAST DATE OF REGISTRATION: JANUARY 20, 2021

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OBJECTIVE

Efficient and effective urban air quality management planning needs trained manpower who can understand importance of its key components and connectivity between them. The key components of any management plan are setting the goal, monitoring, emission inventory, modelling and control strategies. The output of one component can be input for others. Therefore, sound knowledge of these components by air quality managers would lead to improved result in managing air quality. In view of that, the proposed training program on Air pollution Management in Urban Areas is broadly intended to provide perspective, insights and knowledge required for reduction of air pollution level within the city. The specific aim of the training program is to enhance the capacities of the participants in controlling the increasing air pollution level. The main objectives are:

- To provide thorough knowledge about air quality management in urban area
- Understanding the importance of each key component of management plant.

COURSE CONTENTS

- Fundamentals of Air Pollution, its sources and Health Exposure Assessment
- Understanding of Air Quality Index (AQI) and its calculation and interpretation
- Fundamental of Sources Apportionment methodology including monitoring, Chemical characterization and Receptor Modelling
- Multipollutant Emission Inventory Development for urban areas
- Air Pollution Meteorology and Its importance for air pollution dispersion
- Air assimilative capacity concept
- Fundamental of Air quality dispersion modelling
- Validation of models
- Online demonstration of air quality dispersion models such as AERMOD, CALINE-4, CALPUFF
- Air Quality Management: Policy Development, selection of control action

MODE OF TRAINING

MS Team platform will be used to conduct online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹3,000 + 18% GST

CERTIFICATE OF PARTICIPATION:

CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.

LAST DATE OF REGISTRATION: January 25, 2021
Online Training Program on "Wastewater Treatment Processes"
February 23 - 26, 2021

OBJECTIVES
Industrial development is the doorway to economic growth of any country. Water scarcity which is the side effect of rapid industrialization warrants water recycling and reuse in a big way. Industrial wastewater, which is mostly hazardous and deleterious to the environment, need pollutant specific treatment. Big industries can manage their own wastewater at their effluent treatment plant (ETP). However, as wastewater treatment needs an elaborate treatment facility, small and medium scale industries often find it difficult and expensive to have their own treatment facility. Hence a Common Effluent Treatment Plant (CETP) provides a centralized platform for a homogenous and heterogenous cluster of industries to treat their wastewater on chargeable basis. Similarly, rapid urbanization is also putting pressure on our water resources and managing sewage in Sewage Treatment Plant is becoming more and more important. Thus, wastewater management in ETPs, CETPs and STPs has now become an important revenue generating business, a resource of recycled water, a process of protecting environment and influencing quality of life at large. However, wastewater treatment is a tricky affair since wastewater received are diverse. Hence, this program has been specifically designed for imparting basic knowledge and guidance to youth who would like to make their careers in the wastewater management business.

Salient Features of the Training:
- Online Training
- Experienced faculty from CSIR-NEERI with more than 20 years of field experience
- Lectures assisted with multimedia aid
- Personal attention to every candidate
- Discussions with actual case studies
- Reference materials

COURSE CONTENTS
These are the titles of 4 different modules which will contain 2 lectures each:
- Wastewater Treatment: A Conceptual Overview
- Techniques in Primary Treatment of Wastewater
- Techniques in Secondary & Tertiary Treatment of Wastewater
- Advanced Oxidation Processes & Solid Waste Management

MODE OF TRAINING
MS Team platform will be used to conduct online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹4,000 + 18% GST

CERTIFICATE OF PARTICIPATION:
CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.

LAST DATE OF REGISTRATION: February 16, 2021
OBJECTIVES
The proposed Skill Development Program on Municipal Solid Waste and Hazardous Waste Management for SLF Operators and Industries is broadly intended to provide outlook, understanding and knowledge required for effective and efficient management of solid and hazardous waste to protect environment and public health. The specific aim of the training program is to enhance the capacities of the participants in SHWM.

- Exposure to all aspects of SHWM
- Interpretation of different Schedules and Forms
- Issues related to implementation of rules
- Quantification and characterization of MSW and HW
- Issues related to consent within Rules 2016

COURSE CONTENTS
- Classification of HW
- Design of SLF for HW
- Manifest System
- Hazardous waste management
- & M of TSDF sites
- Assessments of performance of TSDF
- Remediation of HW contaminated sites
- Case studies on legacy waste management, utilization of HW
- Methods of analysis of heavy metals
- Leachate Management
- Soil, water and gaseous emissions - Quality Parameters
- Solid & Hazardous Wastes – Characterization, Classification, TCLP, Transport and Management – Guidelines and Regulations of SHW

MODE OF TRAINING
MS Team platform will be used to conduct webinars and online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹2,000 + 18% GST

CERTIFICATE OF PARTICIPATION:
CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.

LAST DATE OF REGISTRATION: March 2, 2021
Online Training Program on
"Sophisticated Environmental Analytical Facility"
March 23 - 25, 2021

OBJECTIVES
To impart basic and advanced knowledge on instrumental methods for environmental analysis and train the participants to perform environmental analysis using sophisticated instrumentation and equipment which is needed in monitoring of environmental pollution and in investigating current environmental processes. Theoretical and analytical aspects for qualitative and quantitative analysis of environmental contaminants in environmental Samples. Imparting knowledge on methodologies for sample collection and preparation. Hands-on training on sophisticated environmental analytical instruments and techniques. Strengthening analytical capabilities on analysis of trace organic and inorganic contaminants in environmental Samples.

COURSE CONTENTS
- Importance of environmental monitoring
- Sample preparation techniques for Environmental Pollutants
- Theory and principles of Gas Chromatography
- Theory and principles of Gas Chromatography-Mass Spectrometry (GC-MS)
- Gas Chromatography
- Gas Chromatography- Mass Spectrometry (GC-MS)
- Theory and Principle of Atomic absorption spectrometry (AAS)-Flame, Graphite furnace, and hydride generation techniques
- Theory and Principle of ICP-OES
- Theory and Principle of ICP-MS
- Mercury analysis by Direct Mercury Analyzer (DMA)
- Trace metal analysis by AAS
- Multi-elemental analysis by ICP-OES
- Trace metal analysis by ICP-MS
- Theory and Principles of high performance liquid chromatography (HPLC)
- Theory and Principles of Ion Chromatography (IC)
- Theory and Principles of Total Organic Carbon (TOC) Analyser
- Hands-on training on HPLC
- Hands-on training on IC
- Hands-on training on Total Organic Carbon (TOC) Analyser

MODE OF TRAINING
MS Team platform will be used to conduct online training program comprising various tools (audio/visual methods, live lectures, reading materials, Q&A session and interactions with resource persons etc.).

REGISTRATION FEE: The fee for Online Training is ₹3,000 + 18% GST

CERTIFICATE OF PARTICIPATION:
CSIR-NEERI issues a Certificate of Participation on successful completion of the training program.

LAST DATE OF REGISTRATION: March 16, 2021

DIRECTOR
Dr. Rakesh Kumar
Director
CSIR-NEERI
Email: director@neeri.res.in

PROGRAM CO-ORDINATOR
Dr. Harshvardhan Singh
Senior Principal Scientist & Head
Training Skill Development and Capacity Building Group (TSDCBG)
CSIR-NEERI
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COURSE CO-ORDINATOR
Dr. Amit Bansiwal,
Senior Principal Scientist & Head,
Sophisticated Environmental Analytical Division (SEAD), CSIR-NEERI
Email: ak_bansiwal@neeri.res.in
ONLINE TRAINING PROGRAMS ON ENVIRONMENT  
(2020-2021)

Title of Program and Duration :

Registration Form :

<table>
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<th>Name of the Participant</th>
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<td>Designation</td>
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<td>Registration Fee payment details</td>
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Mode of registration fees:

Online Fee for Training Program fee will be paid online through SBI Collect, through the link:  
[https://www.onlinesbi.com/sbicollect/icollecthome.htm](https://www.onlinesbi.com/sbicollect/icollecthome.htm)

Instructions for remittance of fee through State Bank Collect is shown below:  
**State of Corporate / Institution:** "MAHARASHTRA"

**Type of Corporate / Institution:** "GOVT DEPARTMENT"

**GOVT Department Name:** "NATIONAL ENVIRONMENTAL ENGINEERING RESEARCH INSTITUTE"

**Payment Category:** "WEBINAR / TRAINING PROGRAM REGISTRATION FEE"

*NOTE:* Kindly send the filled registration form and fee payment details on email skill.neeri@neeri.res.in for confirmation of participation.