



IMAGES: Various Skill Development Training Programs at different CSIR Labs.

### Editorial Team

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- Ms Neeti Sagar
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- Dr Durgavati Yadav
- Mr Pradeep Kr Sharma
- Ms Sindhu Gupta

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## SKILLING/UPSKILLING TRAINING PROGRAMS BY CSIR

### सीएसआईआर द्वारा स्किलिंग/अपस्किलिंग प्रशिक्षण कार्यक्रम

CSIR-NIO, Goa organized a Three days "National Workshop on Water Quality Monitoring for Sustainable Aquaculture" from 26th- 28th June 2024. The objective of this workshop was to impart practical hands-on training in sea water analysis for sustainable aquaculture. 32 Trainees with B.Sc./M.Sc. (Environmental Science, Chemistry, Biochemistry, Hydrochemistry and Biotechnology) from all over India got benefitted from the workshop.



CSIR-CECRI, Karaikudi organized a One-week Training Program on "Chromatography and Spectroscopy" from 01st to 05th, July 2024. This program was attended by 50 participants by covering Six states of India and different parts of the Tamil Nadu.



CSIR-IIP, Dehradun organized a Two-week training program on "Spectroscopic Analytical Techniques, IR-NMR" from 01st to 12th July 2024. Around 20 students participated in this training program.



CSIR-CECRI, Karaikudi organized a One-week Training Program on "Cathodic Protection and Pipeline Corrosion" from 08th to 12th July, 2024. This program was attended by 47 students from different parts of the Tamil Nadu.



CSIR-CRRI, New Delhi organized a program on "Pavement Evaluation Techniques and Their Applications for Maintenance & Rehabilitation" for Greater Noida Industrial Development Authority Engineers, from 20th to 28th June 2024.



CSIR-NBRI, Lucknow organized a one-month-long Program on "Plant Tissue Culture Technician" from 14th June to 12th July 2024. A total of 16 students from Mahayogi Gorkhnath University, Gorakhpur, Jamia Hamdard University, Delhi and University of Allahabad, Prayagraj participated in the program.



CSIR-CGCRI, Kolkata organized a program on "Skill Development Training on Ceramic Membrane & Water Technologies: Theory & Practical" from 9th - 10th July 2024. Nine students with science background studying in different colleges participated in this skill development program.



## (Please click on the link to view the details)

- [CSIR-IITR, Lucknow organized a Four-day Hands-on Training program on "Biostatistics for Beginners" from 9th-12th July 2024. The Workshop was in Hybrid Mode \(Online/Offline\), Total 25 students in which 5 participants attended online.](#)
- [CSIR-NIIST, Thiruvananthapuram organized a One-day training program on "Introduction to Life Cycle Assessment Studies on Bioprocessing and Chemical Engineering" on 28th June 2024. Around 80 students participated in this online program.](#)
- [CSIR-IHBT, Palampur organized a hands-on One-month Summer Research Internship Program \(SRIP\) on "Biotechnology, Dietetics & Nutritional Technology, and Chemistry" from June 3, 2024, to July 2, 2024, which was sponsored by Gujarat State Biotechnology Mission \(GSBTM\), DST, Govt. of Gujarat. Nine students took part in this program.](#)
- [CSIR-4PI, Bengaluru organized a Two-day Training Program titled "HPC System & AI from Theory to Practice" from 4th to 5th July, 2024. Total of 25 students participated in the program.](#)
- [CSIR-NBRI, Lucknow organized a one-month long program on "Bioinoculant Producer for Agricultural Application" from 04th June to 04th July 2024. A total of 29 students from ITM University, Gwalior & Shri Ram Swaroop Memorial University, Lucknow participated the program.](#)
- [CSIR-IHBT, Palampur organized a Five-day Capacity Building Program entitled "Hands-on Training cum Exposure Visit to Agro and Process Technologies of Floriculture, Aromatic, Medicinal, Spices and Plantation Crops" from 01st-05th July 2024. 24 B.Sc. Agriculture students of BHU, Varanasi \(UP\) have participated. Students were exposed to different R&D activities of the Institute through lectures followed by demonstrations in the labs, experimental farms, and fields.](#)
- [CSIR-CIMFR, Dhanbad organized a Seven-day long skill program on "Quality Monitoring of Water and Wastewater: Laboratory Analysis, Data Interpretation, and Quality Assurance" from July 9th-16th, 2024. Aspiring students from the IVth Semester M.Sc. Environmental Science and Disaster Management Stream of BBMKU University, Dhanbad participated in this program.](#)
- [CSIR-NBRI, Lucknow is organizing a Ten-day Training Program on "Quality Analysts for Herbal Industry & Phytochemicals Analysis Technician" on 09th July 2024. 40 PG students from Chemistry Department, Lucknow University, participated in this training program.](#)
- [CSIR-CBRI, Roorkee organized a national workshop on "Nano Materials for Building Construction" from 12th-13th July 2024. More than 200 college students across the country participated in the event.](#)



### Nanomaterials: Synthesis, Characterization and Toxicity

**Key Learnings**

- Practical skills in synthesizing nanoparticles using various approaches
- Understanding the importance of surface modification in enhancing nanoparticle properties
- Hands-on experience with sophisticated instruments such as DLS, UV-Vis Spectroscopy, FTIR
- Hands-on experience with sophisticated instruments such as BET and XRD
- Media preparation, reviving, maintaining, sub-culturing, counting, and seeding cells
- Methods for applying nanoparticles to cell cultures, techniques for cryopreserving cells for long-term storage
- Use of bright field microscopy for observing cells and conducting MTT assays to evaluate nanoparticle cytotoxicity
- Learn multi-technique strategies to address nanomaterial characterization challenges using sophisticated instruments for nanoparticle characterization
- Hands-on training on synthesis of nanomaterials and understanding of the synthetic aspects
- Gain basic knowledge about various soft and hard nanoparticle synthesis and functionalization, nanocomposites, and nanogels fabrications for diverse applications.

**COURSE COORDINATORS**  
Dr. Alok K. Pandey, Dr. D. Ghosh, Dr. S. Patnaik, Dr. Vikas Srivastava, Dr. Nidhi Gupta, Dr. Priti Bhardwaj.

**DATE** - 22.07.24 - 26.07.24 (05 WORKING DAYS)

**ELIGIBILITY** - M.Sc. in Life Sciences/Biotechnology/Food Science/Molecular Biology/Bioengineering and Ph.D. Students who are working in the domain of Nanoscience & Nanotechnology

**COURSE FEE** - For academia - Rs. 5,000/- For Industry - Rs. 10,000/-

**LINK** - <https://iitr.res.in/En/SDP.aspx>

**VENUE** - CSIR-IITR, M.G. Marg, Lucknow

\*Course fee is only for imparting training. Additionally, wherever applicable, candidates have to make their own arrangements (related to lodging/boarding, travel, local transportation, etc.) and bear those expenses on their own. The fee once paid is not refunded, unless the course is cancelled.

### Hands-on Training on Basic Concepts in Clinical Biochemistry

**Learnings-**

- Analysis of clinical chemistry test parameters in Serum/Plasma/urine
- Test parameters include: Glucose, Albumin, Total Protein, AST (SGOT), ALT (SGPT), Cholesterol, Triglycerides, Urea, Creatinine, Calcium, Sodium, Potassium and Chloride
- Importance of Quality Control in clinical chemistry analysis
- Prenatal variables in clinical chemistry
- Interpretation of results
- Hand-on experience in operation of fully automated analyzer

**VENUE** - CSIR-IITR, C.R. Krishnamurti (CRK) Campus Gheru, Lucknow

**Eligibility** - M. Pharma, University Postgraduation and Ph.D. Scholar

**Course Fee** - For academia - Rs. 2000/- For Industry - Rs. 4000/-

**Last date of registration** - 28.07.24

**Time** - 9:00 AM - 5:30 PM

**COURSE COORDINATORS**  
Dr. Mahadeo Kumar

**CERTIFICATES WILL BE PROVIDED TO ALL PARTICIPANTS**

**STUDENT COORDINATORS**  
Monika Yadav - 7905199463  
Sadiya Zafar - 9838608758  
Dr. Ravi Ram Kristipati (Nodal Scientist) - 9307449236

**DATE** - 06.08.24 - 07.08.24 (2 Days)

**LINK** - <https://iitr.res.in/En/SDP.aspx>

\*Course fee is only for imparting training. Additionally, wherever applicable, candidates have to make their own arrangements (related to lodging/boarding, travel, local transportation, etc.) and bear those expenses on their own. The fee once paid is not refunded, unless the course is cancelled.

**CSIR - Indian Institute of Toxicology Research, CRK Campus, Gheru, Lucknow - 226401**

### SKILL DEVELOPMENT TRAINING CALENDAR (2024 2025)

Electrochemical power systems: Lithium ion battery - Science and Technology <i>Dr. A. Sivashanmugam Dr. (Mrs.) Aiswarya Bhaskar</i>	29 July - 02 August 2024	Master / Bachelor Degree in Science or Engineering sciences
Electro-analytical techniques for (Electro) catalytic and (Bio) sensing applications <i>Dr. V. Ganesh Dr. C. Suresh</i>	05 - 09 August 2024	Bachelor Degree in Science or Engineering sciences

**सीएसआईआर-केंद्रीय विद्युतरसायन अनुसंधान संस्थान**  
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)  
काराकुडी-630003, तमिलनाडु, भारत

**CSIR-Central Electrochemical Research Institute**  
(Council of Scientific & Industrial Research)  
Karaikudi-630003, Tamil Nadu, India

### CSIR-INDIAN INSTITUTE OF CHEMICAL TECHNOLOGY

(Under Ministry of Science & Technology, Govt. of India)  
Tarnaka, Uppal Road, Hyderabad - 500007, Telangana, India

CSIR-Indian Institute of Chemical Technology (CSIR-IITC) is a premier National R&D Institute having Eight decades partnership with industry and contribution to the society. The Institute is located in a sprawling campus in the knowledge innovation hub of the city. CSIR-IITC is equipped with expert pool of scientists in Chemical, Biological, Analytical, Engineering, Environmental Research areas etc.

The **SKILL INDIA** Program at CSIR-IITC aims to create opportunities, space & scope for development of talents in the Indian Youth in the sectors which provide Employment and Entrepreneurial skills. The idea is to raise confidence, improve productivity, provide direction with a balanced growth.

**Courses**

- Finishing School to Post-Graduates in Chemistry (16 weeks) (June 2024 - Oct 2024)
- CRISPR/Cas9 Mediated Gene Knockout in Cell Lines (2 weeks) (Aug 2024 - Sep 2024)
- Organic Coatings & Paints (1 week) (Sept 2024)
- Analytical Techniques in Food and Nutritional Chemistry (4 weeks) (Sep 2024 - Oct 2024)
- Animal Cell Culture Techniques (6 weeks) (Sep 2024 - Nov 2024)
- Powder X-Ray Diffraction-Hands on Training (1 week) (Oct 2024)
- Conventional Chromatographic and Spectral Analysis of Oil & Fats (3 days) (Oct 2024)
- Certificate Course in Basic Bioinformatics & Cheminformatics (2 weeks) (Jan 2025 - Feb 2025)

**Salient Features**

- Rigorous training in advanced topics by means of theory and Experimentation
- Personal Attention during Hands on sessions
- Exposure to Research areas in the Institute
- Evaluation of knowledge gained by weekly assignments
- Course completion CERTIFICATE to all the Trainees

**Target Beneficiaries**  
Graduates & Post Graduates in Chemical / Biological / Environmental Sciences, etc.,

**Nodal Officer- Skill Development**  
CSIR-Indian Institute of Chemical Technology, Tarnaka-Uppal Road, Hyderabad - 500 007, Telangana, India

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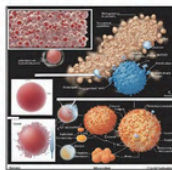
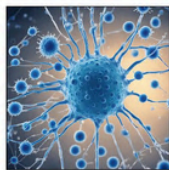
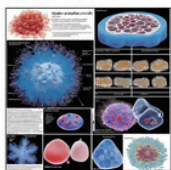




## Hands-on Training on the Isolation & Characterization Of Extracellular Vesicles

### Learn with us:-

- ▶ Hands-on Training to the candidates
- ▶ Clear overview about the extracellular (EVs) sources, biogenesis and functions
- ▶ Key techniques of EVs isolation from various sources including cell culture conditioned media and biofluids
- ▶ EVs characterization using Western Blotting, Electron Microscopy, and Nanoparticle Tracking Analysis (NTA)
- ▶ EVs labelling and uptake assays.



- Date:-22.07.24-24.07.24
- Eligibility:-M.Sc/Ph.D in Life Sciences or allied sciences
- Course Fee:-  
For academia-Rs.3000/-  
For industry-Rs.6000/-
- Last date of registration:-  
17.07.24

### Course Coordinators



Dr. Alok K. Pandey  
Senior Principal Scientist



Dr. Kausar M. Ansari  
Principal Scientist



Dr. Priya Bhardwaj  
Scientist



**STUDENT COORDINATORS**  
Monika Yadav - 7905199463  
Sadiya Zafar - 9838608758  
Dr. Ravi Ram Kristipati (Nodal Scientist)- 9307449236

LINK:- <https://iitr.res.in/En/SDP.aspx>

\*Course fee is only for imparting training. Additionally, wherever applicable, candidates have to make their own arrangements (related to lodging/boarding, travel, local transportation, etc.) and bear those expenses on their own. The fee once paid is not refunded, unless the course is cancelled.

CSIR-Indian Institute of Toxicology Research, (CSIR-IITR) Vishvighyan Bhawan, 31 Mahatma Gandhi Marg, Lucknow-226001

## Instruments and Techniques for Sampling, Monitoring, and Analysis of Environmental and Industrial Pollution - Hands-on Training

### Learn With us:

- Instrumental techniques for sampling and monitoring of environmental pollution and industrial emissions
- Computational tools for analysis and assessment of environmental monitoring data
- Collection of samples, and physico-chemical characterization of environmental and industrial pollution samples
- Identification and analysis of micro-organisms from the ambient air samples
- Generation of aerosols and size distribution analysis of atmospheric particle pollution



DATE: 24.07.24 - 26.07.24 (3 days)

-TIME: 10:00 AM ONWARDS

-ELIGIBILITY: B.Tech./M.Tech. in Environmental/Civil/Chemical/Mechanical Engineering Or M.Sc. in Environment/Chemistry/Physics

-REGISTRATION FEES:

[For Academia-Rs.3000/-]

[For Industry-Rs.6000/-]

-LAST DATE OF REGISTRATION:

20.07.24

CLICK/SCAN HERE TO REGISTER



LINK:- <https://iitr.res.in/En/SDP.aspx>

**STUDENT COORDINATORS**  
Monika Yadav - 7905199463  
Sadiya Zafar - 9838608758  
Dr. Ravi Ram Kristipati (Nodal Scientist)- 9307449236



### COURSE COORDINATORS

Dr. B. Sreekanth  
Er. A. H. Khan

### Venue

CSIR- IITR

C.R. Krishnamurti (CRK)

Campus Gheru, Lucknow

★ Certificates will be provided to all participants

COURSE FEE IS ONLY FOR IMPARTING TRAINING. ADDITIONALLY, WHEREVER APPLICABLE, CANDIDATES HAVE TO MAKE THEIR OWN ARRANGEMENTS (RELATED TO LODGING/BOARDING, TRAVEL, LOCAL TRANSPORTATION, ETC.) AND BEAR THOSE EXPENSES ON THEIR OWN. THE FEE ONCE PAID IS NOT REFUNDED, UNLESS THE COURSE IS CANCELLED.

CSIR- Indian Institute Of Toxicology Research, CRK Campus, Gheru, Lucknow- 226401



## CSIR-NEERI, Nehru Marg, Nagpur-440020 Skill Training Program on "Water Quality: Testing and Data Management" August 12-14, 2024

### OBJECTIVES

Skill training is an integral part of infrastructural development for improved quality of life. The training of personnel involved in the water quality monitoring and assessment sector will improve the capability in dealing with specific expertise in the area through effective management. The program aims at providing awareness related to prevention of drinking water contamination from catchment to consumer by identifying risk and hazards associated with drinking water supply with suitable control measures and treatment options.

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

- Strengthening of knowledge on water quality monitoring and surveillance including advance instrumentation
- Field and laboratory practices for on-site and off-site monitoring of water quality to meet the statutory requirements
- Analysis and interpretation of water quality data
- Water quality data management
- Advanced understanding in water quality assessments and treatment technologies
- Capacity building on water resources management

### COURSE CONTENTS

- Water Quality Monitoring and Assessment
- Field work, sampling and on-site analyses of water quality parameters
- Laboratory exercises and practical for water quality testing
- Demonstrations
- Hands-on training on analytical techniques on instruments

VENUE: CSIR-NEERI, Nagpur

MODE OF TRAINING: Classroom lectures/ demonstration/ interaction. The lecture material shall be provided to the participants after the completion of the program.

### REGISTRATION

- Interested candidate with educational qualification (Graduate & above in Science / Engineering subjects) may submit the Application Form through following web link:  
Application Form Link: <https://forms.gle/1T323ME78E2d97F7>
- Applicants will be informed via email for completion of registration including submission of registration fee of Rs. 3540/- (including GST)
- Seats are limited and registration will be confirmed on first come first get basis. After receiving requisite registrations, application form link will be closed.
- Accommodation at CSIR-NEERI Guest House can be arranged on payment basis, if available
- Last date of Application: July 12, 2024

CERTIFICATE OF PARTICIPATION: Certificate of Participation will be issued on successful completion.

DIRECTOR	SKILL NODAL OFFICER	COURSE CO-ORDINATOR
Dr. Anil N. Vaidya Director CSIR-NEERI	Dr. Harshvardhan Singh Senior Principal Scientist & In-Charge Skill Development Center (SDC)	Dr. G.K. Khadse Senior Principal Scientist, WR

## CSIR-Integrated Skill Initiative

CALENDAR OF WORKSHOP/TRAINING PROGRAMS 2024-2025

### JULY 2024

**Hands-on Training on the Isolation and characterization of extracellular vesicles**  
Date: 22.07.24 - 24.07.24 (03 days)  
Eligibility: M.Sc. and Ph.D. in Life Sciences or allied sciences  
Course Fee : For Academia: Rs.3000/-  
For industry: Rs.6000/-  
Course Coordinators: Dr. Kausar M. Ansari, Dr. Priya Bhardwaj

**Workshop on histopathological techniques and procedures for preclinical studies**  
Date: 25.07.24 - 31.07.24 (03 days)  
Eligibility: M. Sc.  
Course Fee : For Academia: Rs. 3000/-  
For industry: Rs. 5000/-  
Course Coordinators: Dr. Beena V, Dr. Pankaj Rami Jagdale

### AUGUST 2024

**Workshop on DNA Isolation and PCR**  
Date: 01.08.24 - 02.08.24 (02 days)  
Eligibility: 12th pass  
Course Fee : For Academia: Rs.2000/-  
For industry: Rs.4000/-  
Course Coordinators: Ms. Ashika Sachan, Mrs. Shobhna Arya

**Hands-on training on basic concepts in clinical biochemistry**  
Date: 06.08.2024 - 07.08.2024 (02 days)  
Eligibility: M.Sc.  
Course Fee : For Academia: Rs. 2000/-  
For industry: Rs. 4000/-  
Course Coordinator: Dr. Mahadeo Kumar

**Workshop on High-end microscopy (TEM/SEM)**  
Date: 09.08.24 (01 day)  
Eligibility: M.Sc.  
Course Fee : For Academia: Rs.1500/-  
For industry: Rs.2500/-  
Course Coordinators: Dr. Alok K. Pandey, Mr. Jai Shankar, Mrs. Nidhi Arjaria

**Workshop on Principles and Applications of Liquid Chromatography-Tandem mass Spectrometry (LC-MS/MS) towards emerging contaminant analysis**  
Date: 12.08.24 - 14.08.24 (03 days)  
Eligibility: Graduation/Post-Graduation  
Course Fee : For Academia: Rs.3000/-  
For industry: Rs.5000/-  
Course Coordinators: Dr. Sumana Y. Kotian, Dr. Akhilesh K. Yadav

**Essential Techniques and Biosafety in Microbiological Research Laboratory**  
Date: 20.08.24 - 23.08.24 (04 days)  
Eligibility: B.Sc. (Biological Sciences)  
Course Fee : For Academia: Rs.2500/-  
For industry: Rs.5000/-  
Course Coordinator: Dr. Manoj Kumar





सीएसआईआर - राष्ट्रीय अंतर्विषयी विज्ञान  
तथा प्रौद्योगिकी संस्थान  
CSIR - NATIONAL INSTITUTE FOR INTERDISCIPLINARY  
SCIENCE AND TECHNOLOGY (NIIST)



Skill India  
कौशल भारत - कुशल भारत



## SYNTHETIC ORGANIC CHEMISTRY – HANDS-ON TRAINING ON FUNDAMENTALS AND SPECIALIZED REACTIONS

### OBJECTIVES

- **Theory classes:** Basic organic reactions, Characterization techniques, Safety protocols in wet lab etc.
- **Practical's:** Organic reactions mentioned in the syllabus.

### TOPICS TO BE COVERED

- **Training on common practices and equipment's:** Classes will be given on common lab practices and safety measures. Hands-on training will be given on common lab equipment's.
- **Chromatographic techniques:** Training will be given on TLC, column chromatography, flash chromatography and HPLC.
- **Peptide and carbohydrate chemistry:** Training on peptide coupling and synthetic transformations of carbohydrates into useful intermediate/products.
- **Transition metal catalyzed coupling reactions:** Hand-on experience mainly on metal catalyzed coupling reactions.
- **Multicomponent reactions:** Training on multicomponent reactions will be provided.
- **Heterocycle and heteroacene synthesis:** Synthesis of substituted pyridine, indole and heteroacenes.
- **Synthesis of organic dyes:** Training on the synthesis of organic dye molecules.
- **Low temperature reactions involving sensitive organometallic reagents:** Setting-up of reactions at low temperature (-30 to -78 °C).
- **Setting up of reactions under inert atmosphere:** Training on setting up inert reactions in Schlenk flasks with nitrogen/argon.
- **General characterization of organic compounds:** Through NMR, HR-MS and other spectroscopic techniques.

### COURSE COORDINATORS

Dr. K. V. Radhakrishnan, Dr. K. K. Maiti and  
Dr. Jubi John



### COURSE BENEFITS

Over the past century, innovations in synthetic methods have changed the way scientists think about designing and building molecules, enabling access to more expansive chemical space. Organic synthesis in general, have led to an impressive host of benefits to society, including useful products ranging from pharmaceuticals, dyes, cosmetics and agricultural chemicals to diagnostics and high-technology materials used in computers, mobile phones and spaceships. This branch of chemistry forms the backbone of several important industries dealing with pharmaceuticals, agrochemicals, specialty chemicals etc. In our country, there is a huge demand for manpower trained in techniques of synthetic organic chemistry. This skill development program is planned in such a way to give training on not only the fundamental techniques but also in performing complex organic reactions. For example, training will be provided in setting up reactions sensitive organometallic reagents at low temperature and also in setting up reactions under inert conditions. This skill development programme will enable the participants to find jobs in specialty chemicals industries or will be helpful during future research endeavours.

#### MODE

Offline

#### ACCOUNT DETAILS

The Director, CSIR-NIIST  
(Regional Research Laboratory (RRL))  
Account No: 6704723825  
IFSC Code: SBIN0070030  
Bank: State Bank of India (SBI)  
Address: Pappanamcode,  
Industrial Estate

#### CONTACT

PHONE:  
0471-2515326  
E-mail:  
sdp@niist.res.in

#### COURSE DATE AND DURATION

24<sup>th</sup> July 2024  
2 Months

#### APPLY ONLINE

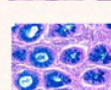
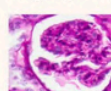
<http://sdp.niist.res.in>

**COURSE FEE**  
**Rs. 20,000/-**  
**NO. OF SEATS**  
**10**

## Workshop on Histopathological Techniques & Procedures for Pre-Clinical Studies

### Learnings-

- ▲ Role of histopathology in toxicity studies & its basics
- ▲ Hands-on training in histopathological techniques and procedures such as gross tissue examination, tissue processing (fixation, dehydration, clearing, and embedding) microtomy (sectioning), staining method (H&E, special stain), slide preparation
- ▲ Significance of quality control in histopathological research, including Standard Operation Procedures (SOPs)
- ▲ Interpret histopathological slides under the microscope, identifying histopathological changes and accurate documents findings in pre-clinical studies



- **Date:** -29.07.24-31.07.24
- **Eligibility:** -M.Sc
- **Course Fee:-**  
For academia-Rs.3000/-  
For industry-Rs.5000/-
- **Last date of registration:-**  
23.07.24

**Venue**  
CSIR-IITR  
C.R. Krishnamurti (CRK)  
Campus Gheru, Lucknow

### COURSE COORDINATORS

Dr. Pankaj R. Jagdale  
Dr. Beena Vamadevan

CERTIFICATES WILL BE PROVIDED TO ALL PARTICIPANTS

**STUDENT COORDINATORS**  
Monika Yadav - 7905199463  
Sadiya Zafar - 9838608758  
Dr. Ravi Ram Kristipati (Nodal Scientist)- 9307449236

scan / click here  
to register



<https://iitr.res.in/En/SDP.aspx>

\*Course fee is only for imparting training. Additionally, wherever applicable, candidates have to make their own arrangements (related to lodging/boarding, travel, local transportation, etc.) and bear those expenses on their own. The fee once paid is not refunded, unless the course is cancelled.

CSIR - Indian Institute of Toxicology Research, CRK Campus, Gheru, Lucknow- 226401

CSIR-SERC Skill Development Program 2024-2025

## Advanced Course on Fatigue and Fracture Behaviour of Materials, Components and Structures (FFBMCs '24)

24-26 July 2024



Organised by:  
CSIR-Structural Engineering Research Centre  
(An ISO 9001:2015 Certified Organization)  
CSIR Campus, CSIR Road, Taramani  
Chennai - 60013, India

### About CSIR-SERC

CSIR-Structural Engineering Research Centre (CSIR-SERC), Chennai is one of the national laboratories under the Council of Scientific & Industrial Research (CSIR), India. CSIR-SERC has built up excellent facilities and expertise for analysis, design and testing of structures and structural components. Services of CSIR-SERC are being extensively sought by the Central and State Governments and public and private sector undertakings. Scientists of CSIR-SERC serve on many national and international committees and the Centre is recognized at the national and international levels as a leading research institution in the field of structural engineering.

### About the Course

The course provides necessary background to basic concepts of fatigue and fracture including design of components and structures against fatigue. The workshop gives an opportunity for engineering professionals to familiarize themselves with the recent developments in the area of fatigue and fracture mechanics. The course will be focused on experimental and numerical techniques for fatigue and fracture of metallic structural components. The topics to be covered during the course include:

- Introduction to fatigue and fracture mechanics
- Fatigue analysis and design for metallic, composite and concrete structural components
- Fracture mechanics-based life assessment of components/structures
- Fracture characterization techniques
- FEM and advanced analytical modelling for fatigue
- Micro-structural aspects of fatigue failures
- Ductile fracture in metals
- Effect of fatigue and environment on fatigue
- Fatigue-resistant design of offshore structures, power plant structures, aircraft and automobile components
- Fatigue life prediction under variable amplitude loading
- Experimental investigations on fatigue and fracture with case studies
- Application of NDE techniques for quantification of fatigue damage

Scan the QR Code for  
Promo Video



### Participation

- The course is open to practicing engineers, researchers, academicians, consultants, research scholars, stake holders and decision makers in public and private sector organizations.
- The course will include visit to fatigue and fracture Laboratory and other prominent laboratories at CSIR-SERC.
- The participation certificate will be provided to all the registered participants.

**Venue & Duration**  
Training and Development Complex, CSIR-SERC, Chennai  
24-26 July 2024; Time: 09.30 a.m. to 5.00 p.m.

### Registration & Fee

The registration fee for the course is Rs. 3,000/- (inclusive of GST) per participant for Indian delegates, Rs. 1,500/- (inclusive of GST) per participant for students (with proper authentication) and US\$ 450/- for foreign delegates. Presentation material (pdf format) shall be provided to all the registered participants. The brochure and details of the registration can be downloaded from the CSIR-SERC web site.  
<https://sdp.res.in/ffbmcs>

### Boarding & Lodging

- The participants or their sponsoring organizations must bear travel, boarding and lodging expenses.
- Limited accommodation in the Guest House/Trainee Hotel at CSIR-SERC campus may be arranged on first come first-served basis.

### Prerequisites

The course registrants can ensure adequate knowledge on the background to course contents through academic qualification/working experience to fully exploit the benefits of attending advanced courses.

### For further details, contact us

**Abhishek Kumar / Nitin Khandelwal**  
Coordinators, FFBMCs '24  
CSIR-SERC  
CSIR Campus, CSIR Road Taramani,  
Chennai - 600 113, India  
Tel.: +91-44-22544790/9129  
Mob: 9043461845/9917157326  
abhishek@serc.res.in; nitin@serc.res.in  
<https://www.serc.res.in>



Faculty for the course would comprise mainly scientists from CSIR-SERC and few experts from academia and industry.



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**DATE: 07.08.24-08.08.24 (2 days)**

**-TIME: 9:00 AM ONWARDS**

**-ELIGIBILITY: B.Sc./M.Sc.**

**-REGISTRATION FEES:**

**[For Academia-Rs.2000/-]**

**[For Industry-Rs.5000/-]**

**LIMITED SEATS ONLY**

**LAST DATE OF REGISTRATION -26.07.24**

### COURSE COORDINATORS

Ms. Asthika Sachan (UGC-SRF)  
Dr. Ravi Ram Kristipati (Senior  
Principal Scientist)

**Venue**  
CSIR-IITR  
M.G. Marg, LUCKNOW



**CLICK/SCAN HERE TO REGISTER**

**LINK:- <https://iitr.res.in/En/SDP.aspx>**

◆ Certificates will be provided to all participants

COURSE FEE IS ONLY FOR IMPARTING TRAINING. ADDITIONALLY, WHEREVER APPLICABLE, CANDIDATES HAVE TO MAKE THEIR OWN ARRANGEMENTS (RELATED TO LODGING/BOARDING, TRAVEL, LOCAL TRANSPORTATION, ETC.) AND BEAR THOSE EXPENSES ON THEIR OWN. THE FEE ONCE PAID IS NOT REFUNDED, UNLESS THE COURSE IS CANCELLED.

\*CSIR-IITR has right to close the registration before deadline, based on no. of applications

CSIR-INDIAN INSTITUTE OF TOXICOLOGY RESEARCH, (CSIR-IITR) VISHVIVYAN BHAWAN, 31 MAHATMA GANDHI MARG, LUCKNOW-226001

STUDENT COORDINATORS  
Monika Yadav - 7905199463  
Sadiya Zafar - 9838608758  
Dr. Ravi Ram Kristipati (Nodal Scientist)- 9307449236

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CSIR - Human Resource Development Centre, Ghaziabad  
(Skill Nodal Office)

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(कौशल नोडल कार्यालय)






























05




## 06



(Please click on the link to view the details) 

-  [Skill Development Programmes Should Be Expanded To Higher Education, Industries, Mission Shakti: Minister](#)
-  [Right turn in education: DU's alignment for educational excellence with Modi 3.0](#)
-  [National Skill Training Institute, Noida organized a workshop including its employees participation on gender sensitization and POSH awareness creating women safety at workplace in hybrid mode under long term skilling](#)
-  [India needs a data-driven strategy to plug skill development gaps](#)
-  [The VEDIC-Mahindra Skill Development Centre was inaugurated today at the Ordnance Factory in Ambajhari, with the ceremony graced by Nitin Gadkari, Minister for Road Transport & Highways](#)
-  [Skill development and employment initiatives discussed at Janata Bhavan in Guwahati](#)
-  [J&K engages with SVS University for skill development; CS emphasises on enabling environment](#)
-  [NGOs working towards Youth Skills Development for a Sustainable Future](#)
-  [Empower young for a better future](#)
-  [Karim City College Partners with Tata Power for Skill Development](#)
-  [Budget 2024: Skill development, apprenticeship programmes in wishlist of industry experts](#)
-  [Exploring the root causes of the cybersecurity skills gap](#)
-  [Specialised skills required for troubleshooting EV charging stations in short supply: TeamLease's Subburathinam P](#)
-  [TCLF SkillBridge Project launched to promote European Textiles & Related Skills Development](#)
-  [AI skills shaping job market; Indeed reveals most in-demand AI jobs list](#)
-  [Ludhiana's PAU invites applications for course on integrated crop production](#)
-  [Skillsoft partners Microsoft to launch GenAI skill development program](#)
-  [Mahindra Tractors opens new skill development centre in Nagpur](#)
-  [The World Youth Skills Day \(July 15\) 2024 is themed on Youth Skills for Peace and Development, several engagements will mark the Day](#)
-  [Diversity skills are key to thriving in globalised modern workspaces](#)
-  [T.N. government's skill development training helps unemployed tribal youths get jobs](#)
-  [Skillsoft partners Microsoft to launch GenAI skill development program](#)
-  [National Institute Of Fashion Design Concludes Successful 20-Day Skill Awareness Workshop](#)
-  [Unlocking Potential with the NEP's Assessment and Skill Development Strategies](#)
-  [THSC leadership meets with minister of skill development and entrepreneurship, Jayant Chaudhary](#)
-  [Why Skills Programs Are Vital for Employees Today](#)
-  [World Youth Skills Day: Preparing the new generation with skillsets to participate in evolving job market](#)
-  [HDFC Bank imparts skill training to 3.25 lakh youth under CSR initiative](#)
-  [India faces diverse skill gaps, must tailor skilling to meet industry demands](#)
-  [NSDC and VTU sign MoU for integrated skill development programs](#)

-  [US employers and workers say they face a major skills development disconnect](#)
-  [15-day skill development programme for rural women organised in Coimbatore](#)
-  [Mind the gap, then fix it: The mismatch between workforce skills and job market demands in India](#)



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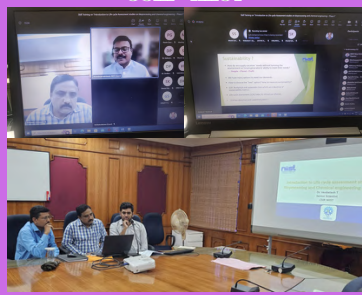
## CSIR- IHBT



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<https://www.csir.res.in/csir-labs-units>

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