

Recent Trends in Industrial Pollution Control and Regulation

Short Term Course organized by the School of Environmental Science and Engineering

Indian Institute of Technology, Kharagpur

November 19-23, 2018



About the Course

There has been a growing global concern about pollution abatement on all fronts – air, water and soil – because of the gradual deterioration of the natural environment with predictable disastrous consequences in the long run. The situation is especially critical in developing countries since they have to make a balance between development and changes in life style on one hand and ensuring a cleaner environment on the other. So far as India is concerned, our position in the global ranking in respect of environmental metrics, which are calculated and published every two years by the Yale Center for Environmental Law and Policy, is gradually sliding down - from 141 in 2016 to 177 in the current year among 180 countries. Effluents and emissions from industries and automobiles are perhaps the major cause of deteriorating of the environment. It is likely to be aggravated further if appropriate actions are not taken in time. The Yale Center identifies environmental health and ecosystem vitality as the two foremost dimensions of sustainable performance. Control and regulation of pollution all kinds from industries to within prescribed standards must be ensured. In the recent time there have been significant advances in the technologies of pollution control and monitoring and it is absolutely necessary to make use of these advancements in knowledge to achieve the objectives and improve the performance metrics. Further, new types of pollutants are being generated in larger amounts whereas the standards are becoming more stringent in many countries including ours. Quite a few of the rules in our countries were revised and new rules are introduced just two years ago. Mitigation of some of the traditional pollution problems are also facing new challenges. A marked example is the quality of the river Ganga that has virtually evaded the actions taken over decades and still carrying BOD, COD, TSS and pathogen in particular much above the prescribed standards. National Mission for Clean Ganga (NMCG) is now identifying the GPI's (Grossly Polluting Industries) to keep them under surveillance in the attempt to improve the water quality. Monitoring of pollutants in air or water has also gone many steps ahead with the advent of sensors for diverse pollutant making it possible to track them online with real time data logging. This will definitely make the industrial pollution control and regulation more effective. In the above context, the TEQIP Short Term course *Recent Trends in Industrial Pollution Control and Regulation* is an attempt to review the recent advances and trends in traditional as well as non-traditions areas and to discuss the state-of-art practices. The participants will be drawn from engineering institutions as well as from industries and other organizations. The first group of participants will carry forward the message to the future generation of engineers and the industrial professionals will be able to put to practice the advances in knowledge disseminated in the TEQIP Course.

Course Content

- *Recent Developments in Hazardous Waste Management*
- *Membrane Technology for Industrial Wastewater Treatment*
- *Air Pollution Control in Mining Activities*
- *Management of Refractory Organics – the Advanced Oxidation Processes*
- *Control of NO_x Emission*
- *E-Waste Management*
- *Biomedical Waste Management*
- *Water Recycling and Reuse – the Zero Discharge Strategy*
- *Water and Air Quality Monitoring*
- *On the National Mission for Clean Ganga*
- *Waste-to-Energy – the Bio-electrochemical Technology*
- *The Principles and Practice of Green Technologies*
- *Sustainable Development – Criteria and Metrics*
- *Laboratory Sessions – Monitoring Instruments*

Course Coordinators



Prof. M. M. Ghangrekar (Course-Coordinator) has spearheaded various research projects and acted as an industrial consultant for the past 25 years. He has been the Principle Investigator for various DST, DBT and EU funded research projects and has published over 138 peer reviewed journal papers and 196 conference papers as of today. He has been identified as one of the top five publishers in the field of microbial fuel cell by Scopus database. He successfully commissioned 500 m³ capacity UASB and 20 m³ High rate algal pond at IIT KGP premises for Treatment and reuse of sewage.

Prof. M. M. Ghangrekar

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Prof B. K. Dutta, currently a visiting professor of SESE, IIT, Kharagpur, taught in India, USA, Canada, Malaysia and UAE, worked at NIST, Boulder, Colorado, Stevens Institute of Technology, New Jersey and USEPA, Cincinnati, Ohio, is a former Chairman of West Bengal Pollution Control Board, a past President, IChE, authored three books and supervised many PhD student, and holds several international patents.

Prof B. K. Dutta (Co-coordinator)

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Important Dates

Last date of registration:
10th November, 2018
Date of course: 19th to 23rd
November 2018

Registration fees details

Industry participants: ₹ 8000/-
IIT Kharagpur Students: ₹ 1000/-
Outside students: ₹ 1500/-
Non-TEQIP Faculties: ₹ 4000/-
TEQIP participants: Free
All payments should be made online
through the application portal:
[https://erp.iitkgp.ac.in/CEP/courses.h
tm](https://erp.iitkgp.ac.in/CEP/courses.htm)

Sponsorship Certificate

Certified that Dr./Shri/Smt.....is
being sponsored/forwarded hereby for attending the
course on “**Recent Trends in Industrial Pollution
Control and Regulation**” to be conducted at IIT
Kharagpur during 19th to 23rd November, 2018

Boarding and Lodging

Limited shared accommodations will be available on first
come first serve basis for registered participants in
institute guest houses at standard applicable rates for non-
TEQIP participants and free for TEQIP participants upon
confirmation of participation via email:
rtipcc.short@gmail.com. The details of room tariff can be
found in the given link: <http://www.tgh.iitkgp.ac.in/>

Course Faculty

The courses will be facilitated by reputed
faculty from IIT Kharagpur and other
reputed organizations

Course Target Audience

The course aims to enhance the knowledge
database of teachers of engineering and
technological institutions, industry and
government professionals, scientists and
researchers from reputed organizations.

Contact email id: rtipcc.short@gmail.com
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Chakraborty)