

About IIT Kharagpur

Kharagpur, home to the third longest railway platform in the world, is the nursery where the seed of the IIT system was planted in 1951. IIT Kharagpur started its journey in the old Hijli Detention Camp of Eastern India, where some of the country's greatest freedom fighters toiled and sacrificed their lives for India's independence. Spurred by the success of IIT Kharagpur, four younger IITs (at Bombay, Madras, Kanpur, and Delhi) were setup across the country in the next two decades. Together, these five IITs nurtured several brand ambassadors of modern India. It was the success of this one institution at Kharagpur that wrote India's technological odyssey. The Institute takes pride in its relentless effort to provide the best platform for both education as well as research in the areas of science and technology, infrastructure design, entrepreneurship, management, law, and medical science and technology. In 2019, the Institute was declared as an 'Institute of Eminence' by the Ministry of Human Resource Development (MHRD), Government of India.



Accommodation

On-campus accommodation (twin-sharing) will be provided on a first-come, first-served basis in the Visveswaraya Guest House of the Institute. Standard rates will be applicable to all non-TEQIP participants. For information on room tariffs, visit: <http://www.tgh.iitkgp.ac.in/?id=vgh>

Photos courtesy of Mr. Soumyajit Sarkar (Research Scholar, IIT Kharagpur)

Course Instructors

The course will include 30 hours of classroom instruction, delivered predominantly by faculty members of IIT Kharagpur.

Who can attend?

Faculty members of TEQIP-III funded/aided institutions can attend this course without paying any course fee. Additionally, interested persons from Industry, R & D Institutes, faculties from non-TEQIP institutions, as well as students and research scholars are welcome to attend the course upon payment of the prescribed course fee.

Course Fee

Faculty (TEQIP-III)	Nil*
Faculty (non-TEQIP)	₹ 3,000 + 18% GST
R & D personnel	₹ 5,000 + 18% GST
Industry personnel	₹ 10,000 + 18% GST
Research Scholars/Students	₹ 1,000 + 18% GST

*Faculty participants from TEQIP-III funded/aided institutions are required to pay a course participation fee of ₹ 500/- (to be refunded ONLY to those who attend the course) through demand draft. The draft, drawn in favour of "IIT KHARAGPUR" (payable at Kharagpur), must be sent via speed post to "The Head, School of Environmental Science and Engineering, Indian Institute of Technology Kharagpur, West Bengal 721 302" on or before the application deadline. The envelope should be super scribed with "TEQIP-III - Recent Advances in Environmental Biotechnology".

How to Apply?

Please use the following link to apply online:
<https://erp.iitkgp.ac.in/CEP/courses.htm>



Payment (if applicable) is to be made online upon being shortlisted for the program.

Application deadline: **15 June 2020**

Recent Advances in Environmental Biotechnology



A NPIU-MHRD, Govt. of India
TEQIP-III Sponsored
Short Term Course

6 – 10 July 2020



School of Environmental Science and Engineering

Indian Institute of Technology Kharagpur
West Bengal 721 302

Course Outline

With incredible scientific advances and technological breakthroughs, the field of Biotechnology is playing a significantly prominent role toward the conceptualization of innovative and progressive solutions to current and emerging global environmental issues, with sustainability as the underlying principle. Indeed, a global multidisciplinary research effort is currently underway to harness the enormous biochemical potential of microorganisms and plants, for the restoration and perpetuation of the quality of the environment as well as conservation of our limited natural resources. This short-term course will target this aspect amongst others, with an objective to disseminate the major recent advancements in biotechnological tools, techniques, and processes for improving drinking water quality, microbial transformation of environmental contaminants, electronic waste management, cleaner production, air pollution control, greenhouse gas abatement, generating renewable energy, etc. in a holistic manner. Further, the latest trends in applications of bioanalytical methods and genetically modified microorganisms for environmental monitoring and assessment as well as enhancing food security will be demonstrated, with a clear mandate and focus on sustainable development.

Course Content

- Biotechnology for tackling global water crisis
- Biotransformation of xenobiotics
- Bioreactors for bioremediation
- Biofertilizers for sustainable agriculture
- Bioleaching of electronic waste
- Bioplastics for a circular economy
- Biotechnology for odor and air pollution control
- Biotechnology for mitigating climate change
- Bioelectrochemical systems for green energy
- Bioanalytical methods for food and environmental monitoring

About the School

The School of Environmental Science and Engineering at IIT Kharagpur is a collaborative hybrid, uniquely designed to lead pioneering research and technology translation as it prepares the next generation of scholars to solve critical and complex global environmental problems, within the framework of sustainable development. The underlying mission is to improve the health of the planet and its inhabitants. The School's research activities span several subdisciplines within environmental engineering and geosciences. With its accomplished faculty and visionary students, the School is poised to leverage its broad and deep expertise to propel discovery and innovation, as well as to inspire and educate scholars of the 21st century and beyond.



Contact Us

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Coordinator

Dr. SUDHA GOEL is an Associate Professor in the Department of Civil Engineering & School of Environmental Science and Engineering at the Indian Institute of Technology Kharagpur, India. She received her PhD in Environmental Engineering from the Johns Hopkins University, USA in 1997, and has teaching and research experience in the areas of environmental impact and health risk assessment, water quality, wastewater treatment, as well as solid and hazardous waste management. Dr. Goel has authored/co-authored numerous refereed publications and has presented the key findings of her research group at national and international conferences/symposia. Recently, Dr. Goel has authored a textbook, titled 'Water and Wastewater Engineering' (Cambridge University Press, 2019), which offers an unconventional and problem-oriented approach to environmental education.

Co-Coordinator

Dr. SHAMIK CHOWDHURY is an Assistant Professor in the School of Environmental Science and Engineering at the Indian Institute of Technology Kharagpur, India. He earned his Ph.D. (2017) in Environmental Engineering from the National University of Singapore (NUS), Singapore. Prior to joining NUS, he obtained his B.Tech. from the West Bengal University of Technology (India) and M.Tech. (Gold Medalist) from the National Institute of Technology Durgapur (India), both in Biotechnology. His current research activities focus on the design and development of advanced functional materials, via industrially appealing, cost effective processes based on renewable and sufficiently abundant resources, for sustainable energy applications and climate change mitigation. In recognition of the quality, impact and practical relevance of his research, Dr. Chowdhury has been honored through several intra- and extra-mural awards, including the 'Research Project of the Year Award' (ICHEM Singapore, 2015), the 'Sustainable Technology Award' (ICHEM Singapore, 2015), and the 'Green Talents Award' (Federal Ministry of Education & Research Germany, 2016).