About IIT Kharagpur

Kharagpur - a dusty town tucked away in the eastern corner of India, famous until 1950 as home to the longest railway platform in the world - became the nursery where the seed of the IIT system was planted in 1951. IIT Kharagpur started its journey in the old Hijli Detention Camp in Eastern India, where some of the country's great freedom fighters toiled and sacrificed their lives for India's independence. Spurred by the success of IIT Kharagpur, four younger IITs sprouted around the country in the two following decades, and from these five came thousands of IITians, the 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 designs, entrepreneurship, law, management, and medical science and technology. IITKGP is not just the place to study technology, it is the place where students are taught to dream about the future of technology and beam across disciplines, making differences enough to change the world.

Program Features/ Structure

Classroom lectures – **50%**

Numerical/ Problem solving, Case study and Activity – **25%**

Practical and Tutorial - **25%**

Program Schedule and Venue

1 week, 14 – 20 October 2019 (9:00 AM – 5:30 PM)

Department of Mining Engineering, IIT Kharagpur

Program Fee

Nil for AICTE-QIP sponsored participants

For others - INR 30,000/- (Twenty thousand) **+ GST** @18% per participant

Who will benefit (Eligibility)

Students and faculty of mechanical, civil, metallurgical, mining, mineral, mining machinery and researchers working on infrastructure development in ports and plants as well as the executives and supervisors engaged in surface mining and quarrying industry, both in coal and metalliferous sector

Last day of Registration

10

October 2019

Accommodation

Accommodation will be provided to the AICTE-QIP sponsored participants at the campus Guesthouse. For other participants, the same will be provided on chargeable basis as per rule.

How to Apply

Use the link: **https://erp.iitkgp.ac.in/CEP/courses.htm** to apply ONLINE.

Signup → Login → Profile Fillup → Choose a Program → Apply Now

Payment if applicable is to be done **ONLINE** after getting short listed for the program.

Contact Us

Prof. Khanindra Pathak, Principal Co-ordinator
Department of Mining Engineering
Indian Institute of Technology Kharagpur
Phone: +91-3222-283722
Email: khanindra@mining.iitkgp.ac.in

AICTE QIP

QUALITY IMPROVEMENT PROGRAMME

Indian Institute of Technology Kharagpur

2019

CONVEYOR TECHNOLOGY FOR BULK MATERIAL TRANSPORT

1 Week

14 – 20 October 2019

Introduction / Overview

Large scale bulk solid handling is a major operational area in mining, metallurgical and agricultural sectors. Thermal power stations, steel plants, ports and metallurgical plants need to transport and handle coal and minerals. Grains handling in agro industries also involve bulk solid handling. However, indigenous technology and tools for bulk transport is almost non-existent. Uses of conveyor belts in India have expanded manifold in the last five decades. Currently much innovative advancement have taken place in the belt conveying technology and number of national and international companies are offering design and construction services to Indian industries. However, not many academic or research oriented programs related to bulk material handling are offered in Indian engineering institutes. This course is designed to appraise the current technological advancements so that the engineering faculty can develop new courses and initiate R&D activities to effectively support the country's infrastructural requirements.

Program Objectives

Migrating to a modern environmentally friendly transportation technology in the mines is the demand of the day. However, it requires a careful techno-economic feasibility study. It is now crucial to initiate and develop indigenous expertise amongst engineers for advanced transportation technology. The practicing engineers should be able to identify the drawbacks in the present transportation system and assess its impacts to introduce new solutions to get rid of the problems

What you will learn

Program Content

Classification and evaluation of bulk material transportation systems.

Tools and techniques for terrain analysis and transportation route selection.

Basic principles of technology design: conveyor belt types and their designs, belt feeding systems, temporary storage and discharge systems, belt maintenance and monitoring technologies.

Introduction to conveyor belt design and maintenance software

Monitoring and maintenance of belt conveyor systems.

Environmental impacts of mineral transport and its mitigation measures.

Economics of bulk material transport and handling.

Risk and safety analysis of belt conveyor systems.

About the Faculty

Prof. Khanindra Pathak

Dr. Khanindra Pathak, is presently Professor in the Department of Mining Engineering, IIT Kharagpur. He graduated in Mining Machinery from Indian School of Mines, Dhanbad in 1983 and did his M. Tech in Open Cast Mining from the same Institution in 1989. He worked with Neyveli Lignite Corporation and CMPDIL of Coal India Limited before joining teaching at the Dept. of Mining Machinery, Indian School of Mines, Dhanbad as Lecturer. He did his PhD in Mining Engineering from Imperial College of Sc. Tech and Medicine, London University, London in 1996. He is with IIT Kharagpur since 2000. He was Professor and Head of the Department of Mining Engineering Department at the University of Technology, Lae for two years in Papua New Guniea during 2006-2007.

He is Independent Director of Coal India Limited and Honorary Editor of the Transactions and News Letters of The Mining, Geological and Metallurgical Institute of India. He is currently serving as member of Internal Quality Assurance Cell (IQAC) of Dibrugarh University as well as Chairman of the Governing Body of TEQUIP-III of the Institute of Technology of that university. He is also Chairman, Eastern Regional Committee of the All India Institute of Technical Education

Recipient of prestigious National Geo Science Award in 2014 for his contribution in environmental management in mines, Prof. Pathak has more than hundred national and international published papers on interdisciplinary subjects including surface mining, mining machinery and mine environment. His research areas include application of Remote Sensing and GIS for resource and environmental management. He is actively involved with the Centre of Educational Technology, IIT Kharagpur in Pedagogic research project. He authored two books and also contributed a chapter of Encyclopedia of Life Support System (EOLSS) published under UNESCO project. Prof Pathak has carried out number of industrial projects in the country and abroad. Environmental Protection Agency of Republic of Ireland through Imperial College, London implemented environmental noise modeling methods developed by Prof. Pathak during his PhD for preparation of environmental noise map of the country in 2002.

Well known amongst mining academics, Prof. Pathak has contributed towards post mining mine site restoration in India and was first to introduce mine closure planning courses in 2001. He is known in the Iron Ore Mining Sector for his introduction of Vetiver System Technology for Slope Stabilization and erosion Prevention in Mines. His innovative research interests resulted in development of Magnetic Sponge for oil spill cleaning, Distributed Airgap Blasting for minimizing explosive consumption and energy consumption, Equivalent Acoustic Centre method of noise level prediction etc.