CSK HIMACHAL PRADESH KRISHI VISHVAVIDYALAYA, PALAMPUR
"GENERAL ADMINISTRATION BRANCH"

30 MAY 2019

Endst. No.QSD.8-51/2017-CSKHPKV(GA)/- 21570-79 Dated: Palampur, the

Copy of obverse alongwith its enclosure is forwarded to the following for information and necessary action:-

1. All the Deans/Directors, CSK HPKV, Palampur.
2. The Section Officer (Acad./Estt.), CSK HPKV, Palampur.
3. The Incharge, UNS, CSK HPKV, Palampur for uploading the same in the University website.

Section Officer (Admn.)
CSK HPKV, Palampur.

राष्ट्रीय प्रौद्योगिकी संस्थान
NATIONAL INSTITUTE OF TECHNOLOGY
राउरकेला ROURKELA - 769008, ओडिशा ODISHA

RIGHT TO INFORMATION

Department of Mechanical Engineering

Patron	Chairman	Coordinator	Co-coordinator
Prof. Animesh Biswas	**Prof. D. R. Parhi**	**Prof. S.Murugan**	**Prof. Sushil Kumar Rathore**
Director	Head	Professor	Assistant Professor

7th May 2019

To

Vice Chancellor
Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishvavidyalaya, Mandi-Pathankot Rd, Holta, Palampur, Himachal Pradesh 176062

Office of the Vice-Chancellor
Dy. No. 2185
Date 22.5.19
CSKHPKV Palampur

Dear Sir/Madam

Sub: Invitation for a Five Day Short Term Course on "Carbon Capture and Storage" (CCS-2019)

Greetings from National Institute of Technology Rourkela

The Department of Mechanical Engineering is planning to organize a Five Day Short Term Course on Carbon Capture and Storage" (CCS-2019) during 15-19 July 2019. This short term course will provide subject knowledge in the area of capturing carbon from different sources such as power plant, steel industry, mining industry, cement industry etc., transporting them from the source and storing it effectively to reduce carbon dioxide emission (CO_2) that is released to the atmosphere causing increase in global warming potential. The course will provide an insight to different combustion systems that utilize fossil fuels to produce heat and power, emission control techniques, mathematical modeling of carbon capture, use of simulation software, techno economic aspects of transportation of CO_2, and different methods of carbon storage. The course will be highly useful to Academicians, Research Scholars, Scientists and Engineers who are involved in research and development of various energy systems. We are working for the success of the event and contacting educational institutions, research laboratories and industries to sponsor their employees and research scholars to attend the course.

We shall be glad if you kindly arrange to circulate the information among the faculty members and students of your Department/Institute to create a wider publicity for this short term course as well as encourage your faculty members/research scholars/students to participate in the short term course.

Looking forward to have your gracious presence in CCS-2019

Thanking You

Yours faithfully

Registrar 27/5

1195 28-5-19

S. Murugan 07/05/2019

V.C. 25/05/2019

Sushil Kumar Rathore 07/05/2019

AR(SA) SA/CA 27/5/19 SA R 28/5/19

फोन Phone (0661) 2478773 फैक्स Fax (0661) 2462022, वेबसाइट Website : www.nitrkl.ac.in
मा.सं.वि. मंत्रालय, भारत सरकार के अधीन एक राष्ट्रीय महत्व का संस्थान
An institute of national importance under ministry of HRD, Govt. of India

REGISTRATION FORM

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FIVE DAY SHORT TERM COURSE

ON

CARBON CAPTURE AND STORAGE (CCS-2019)

15-19 JULY 2019

Name: ----------

Designation: ----------

Institute/Organization: ----------

Mailing Address: ----------

Phone No.(R)----------(O)----------

Mobile: ----------Fax: ----------

Email: ----------

DD No: ----------Date: ----------

Accommodation required: Yes/No

Signature: ----------

Date : ----------

IMPORTANT DATES

Last date for receipt of application : 20-06-2019
Notification about selection : 01-07-2019
Confirmation by participants : 05-07-2019

Selected candidates will be informed by email. Complete information for communication must be necessarily provided in the registration form.

TRAVEL AND ACCOMMODATION

The participants will have to make their own arrangements for travel. Boarding and lodging can be arranged on payment basis in the guest house at NIT Rourkela based upon prior request and availability. There are also many good hotels in Rourkela; the same can be booked on request and prior payment.

HOW TO REACH ROURKELA

Rourkela is on the Howrah (Kolkata)-Mumbai main line of South Eastern railway. The railway station and intrastate bus stand are 6kms and 2kms from NIT Rourkela campus respectively. The airports near to Rourkela are Ranchi, Bhubaneswar and Kolkata. Rourkela is well connected to these cities by rail and train frequency is very good.

Participants will be paid to and fro train fare (III AC) via shortest route (strictly on the production of ticket) and provided free boarding and lodging subject to the funds received from the funding agencies.

COURSE COORDINATOR

Dr. S.Murugan
Professor, Department of Mechanical Engineering
+919437140949 (M)/ +91 6612462525(O)
Email ID: murugans@nitrkl.ac.in

COURSE CO-COORDINATOR

Dr. Sushil Kumar Rathore
Assistant Professor, Department of Mechanical Engineering +91 9474828662(M)/+916612462532(O)
Email ID: rathoresk@nitrkl.ac.in

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FIVE DAY SHORT TERM COURSE

ON

CARBON CAPTURE AND STORAGE (CCS-2019)

15-19 JULY 2019

PATRON
PROF. ANIMESH BISWAS
DIRECTOR
NIT ROURKELA

CHAIRMAN
PROF. D.R.PARHI
HEAD OF THE DEPARTMENT
DEPARTMENT OF MECHANICAL ENGINEERING

ORGANIZED BY
DEPARTMENT OF MECHANICAL ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA-769008
ODISHA

ABOUT THE INSTITUTION

National Institute of Technology Rourkela is an institute of national importance created under the act of parliament. NIT Rourkela has been ranked at 215 and 27th position in QS Asia University Ranking, and QS Indian University Ranking 2019 respectively. It has also been ranked in 121 positions in QS BRICS category, 2019. Times Higher Education has figured NIT Rourkela in the group of 601-800 in World University Ranking 2019. The Institute provides quality education in a diverse and multi-cultural environment. The mission of the institute is to become an internationally acclaimed institution of higher learning that will serve as a source of knowledge and expertise for the society and be a preferred destination for undergraduate and graduate studies. The institute is offering Ph.D. and M.Tech by Research programme in 21 branches of Engineering. The institute research centers are engaged in consultancy and research activities of several bodies such as DST, DAE, CSIR, DRDO, BARC, ISRO and private industries.

DEPARTMENT OF MECHANICAL ENGINEERING

The Mechanical Engineering Department of NIT, Rourkela is known for research in most of these fields. The main foci of research are on mechanical vibration, robotics, CAD/CAM, precision engineering, Metal forming, manufacturing, CFD, Industrial refrigeration and Cryogenics. The academic programme of the department reflects not only the core areas of Mechanical Engineer but also the research specialization of the faculty. The department at present has over one hundred research scholars pursuing projects on diverse fields. The faculty is organized under three divisions and six groups. All the groups are working in close co-operation while retaining individual identities. Many Research and Development projects being pursued by the faculty are sponsored by Government agencies and private industries. Some of the major sponsors are BRNS, DST, DAE, CSIR, DRDO, BARC, ISRO and private industries.

ABOUT THE SHORT TERM COURSE

According to the Intergovernmental Panel on Climate Change (IPCC), greenhouse gases (GHGs) will increase the average global temperature from 1.1 to 6.4 °C by the end of the 21st century. Global warming of more than 2°C increase in global average temperature will lead to serious consequences such as melting of glaciers, sea level will rise, climate change with more floods and draughts.. Ecosystems will be disrupted, and 15 to 40 percent of all species can be extinct. CO_2 is one of the greenhouse gases (GHGs) that has to be curbed. Carbon capture and storage is an important strategy to reduce global CO_2 emissions. According to IPCC, global GHG emissions should be reduced by 50 to 80 percent by 2050. Carbon Capture and Storage (CCS) is widely regarded as a key technology in the medium term to reduce carbon emissions from the energy industry during the transition to renewable energy generation, and in the longer term to decarbonise refining, iron and steel, cement, chemical and other industries

COURSE CONTENTS

The short term course will provide lectures on basics and recent developments in carbon capture and storage and carbon sequestration. The course will cover the following topics;

- Combustion, and CO_2 from different sources
- Post-combustion capture
- Capture by Oxy-fuel Combustion
- Pre-combustion capture
- Carbon Dioxide Utilisation
- Carbon negative technologies
- Geological Carbon Storage
- CO_2 pollution and waste disposal
- Geologic Sequestration
- Ocean Sequestration
- Terrestrial Sequestration

FACULTY

The course will be taught by the faculty members of NIT Rourkela. Experts from other academic institutions will be invited to share their latest research findings with the participants.

TARGET PARTICIPANTS

The course will be useful to engineers from industries, faculty members and research scholars from engineering colleges, universities, and research institutes. The successful participants will be given participation certificate.

COURSE FEE

Faculties from academic institutions	Rs: 2000
Participants from industries	Rs: 10000
Research Scholars/Students	Rs: 1000

PAYMENT

All payments should be made through A/C payee demand draft in favor of "**Continuing education, NIT Rourkela**", payable at SBI NIT Campus branch, Rourkela (Code:2109). You can also visit www.nitrkl.ac.in for downloading the registration form and other information.

You can also visit **www.nitrkl.ac.in** for downloading the registration form and other information.

For queries related to registration and accommodation Contact:

Mr. R. Maniarasu
Research Scholar
Mobile: 07667518012, 8778484294