## **REGISTRATION FORM**

#### Α

## 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: <u>murugans@nitrkl.ac.in</u>

# COURSE CO-COORDINATOR

## **Dr. Sushil Kumar Rathore**

 $Assistant \quad Professor, \quad Department \quad of \quad Mechanical \\ Engineering + 91\ 9474828662(M) / + 916612462532(O)$ 

Email ID: rathoresk@nitrkl.ac.in

## A

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## **CARBON CAPTURE AND STORAGE (CCS-2019)**

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## **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<sub>2</sub> is one of the greenhouse gases (GHGs) that has to be curbed. Carbon capture and storage is an important strategy to reduce global CO<sub>2</sub> 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<sub>2</sub> from different sources
- Post-combustion capture
- Capture by Oxv-fuel Combustion
- Pre-combustion capture
- Carbon Dioxide Utilisation
- Carbon negative technologies
- Geological Carbon Storage
- CO<sub>2</sub> 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