

INTRODUCTION

Manmade chemicals and chemical – derived products constitute the most significant consumables of modern society. The increasing production of solid wastes from various sources such as municipalities, hospitals and industries requires that sustainable waste management systems act as a “filter” between human activities and the environment. Waste Management and development of technologies for energy production with special emphasis on the possibility to improve the value of energy and materials output are of great importance for a modern society. Therefore there is necessity of updating the knowledge technically and economically with the state-of-the-art development for the innovative processes like

- (a) Fluidized bed pyrolysis and gasification
- (b) Gas cleaning by fluidized bed reactor
- (c) Waste Heat Recovery
- (d) Waste Water Treatment

COURSE CONTENTS

Chemical engineering deals with the technology of manufacturing the products economically, safely and with minimal impact on the environment. But it is not possible to implement the ideas directly for fabrication of units or changing the parameters automatically to improve the quality of the products. That is why there is necessity of simulation and modeling. The following areas will be discussed in detail in this course with hands-on-session for simulation and modeling.

- Fundamentals of Fluidized Bed Technology with CFD and ASPEN Plus Simulation

- Fluidized beds in Treatment of Gaseous and Liquid Effluents : Design of reactor and bioreactors
- Fluidized Beds for Treatment of Solid Wastes and Resource Generation : Design of Dryer, Combustor and Gasifier
- Modeling and Simulation of Fluidized Bed Systems using ASPEN Plus & CFD.

THE INSTITUTE & DEPARTMENT OF CHEMICAL ENGINEERING

NIT Rourkela has made a rapid progress as an Institute of higher learning, in the last decade. Department of Chemical Engineering was established in 1963. Since its inception, the department is under dynamic progress and is reputed for imparting quality education both at B. Tech, M. Tech levels. The academic programme of the department not only highlights the core subjects but also portrays the area of research in the field of Engineering and Science offered by the faculty members. The department also envisages sponsored projects funded by different sponsoring agencies such as DST, CSIR, MOEF, MNRE, DOF etc. The research activities of the faculty members have been placed in reputed journals. Besides, a good number of research scholars are working towards the PhD degree. The Department has well equipped modern laboratories with sophisticated equipments in the areas of Process Dynamics & Control, Reaction Engineering, Fluid Dynamics, Simulation, modeling and Optimization Techniques, CAD, Process Technology, Fuels & Combustion, Nanotechnology and Catalysis, Biochemical

Engineering, Heat & Mass Transfer, Environmental Engineering, Fluidization Engineering, Processing & Handling of Material etc. Many equipment in the department include BET surface area analyzer, TGA, HPLC, GC, GC-MS, Nanoparticle size analyzer, surface tensiometer, contact angle meter, fluorescence spectrophotometer, FTIR, Gas Analyser etc,

WHO SHOULD ATTEND

All practicing engineers/ technicians working in private, public, government organizations/ industries, scientists/ engineers from R&D establishments, faculties, research scholars and students from engineering institutions are eligible to apply.

COURSE FEE

People from Industry, R&D units: Rs. 9,000/-

Faculty from Academic Institutions: Rs. 6,000/-

Students/Research Scholars: Rs. 4,000/-

The course fee includes course material and working lunch.

MODE OF PAYMENT

All payments should be made through A/C payee demand draft drawn in favour of “**Continuing Education, NIT Rourkela**” payable at **SBI, NIT campus branch, Rourkela (Code-2109)**.

BOARDING AND LODGING

Accommodation on twin share basis can be arranged in the institute guest houses subject to availability and on prior payment.

Room tariff (May change without notice).
South Block : Twin sharing per person per day:
Rs.250/-
North Block : Twin sharing per person per day:
Rs.150/-
Breakfast and dinner can be availed in the guest house/student Hostels on payment. There are also many good hotels in Rourkela; the same can be booked on request and prior payment.

IMPORTANT DATES

Last date of registration: **29th August 2014**

Selection intimation to the applicant: **30th August 2014**

Course date: **8 -12th September, 2014**

PROGRAM COORDINATORS

Dr. AbantiSahoo
Associate Professor
Department of Chemical Engineering,
National Institute of Technology
Rourkela – 769008, Odisha
Ph. No: 0661-2462258 (O), 09437049991 (M)
Email: asahu@nitrkl.ac.in

And

Dr. Hara Mohan Jena
Assistant Professor
Department of Chemical Engineering,
National Institute of Technology
Rourkela – 769008, Odisha
Ph. No: 0661-2462264 (O), 09437085967 (M)
Email: hmjena@nitrkl.ac.in

REGISTRATION FORM FOR

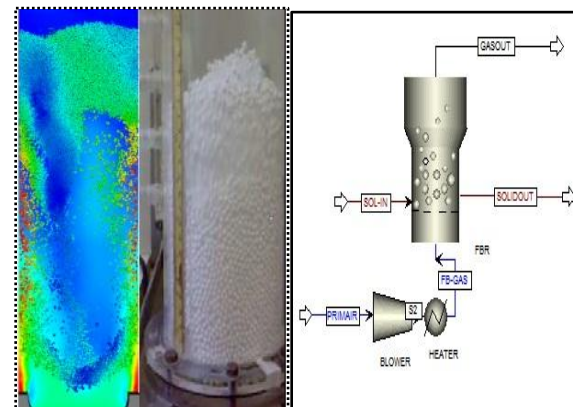
Fluidized Bed Technology For Waste Management: Design, Modeling and Simulation Septemeber 8 – 12, 2014

1. Name:
2. Highest qualification:
3. Designation:
4. Organization:
5. Date of Birth:
6. Father's Name:
7. Address:
8. Phone/ Mobile (must):
9. E-mail (must):
10. Accommodation required: YES / NO
11. If accommodation required, it should be in GUEST HOUSE North Block/South Block?
12. Details of registration fee:
Amount:
DD No.: Date:

Date Signature

SHORT TERM COURSE ON Fluidized Bed Technology For Waste Management : Design, Modeling and Simulation

(Septemeber 8 – 12, 2014)



DEPARTMENT OF CHEMICAL ENGINEERING
NIT ROURKELA