ABOUT THE DEPARTMENT

The department offers B. Tech and M. Tech degrees in Biotechnology and in Biomedical Engineering. It also offers M. Tech (R) and PhD degrees. The faculty members have diverse research interests and they conduct both basic and applied research in diverse areas like Cell & Molecular Engineering, Tissue Engineering & Biomaterials, Bioprocess Engineering, Environmental & Plant Biotechnology, Biomechanics & Bio transport Engineering, Medical Electronics & Instrumentation etc. The department is having a number of state of art laboratory well equipped for basic and applied research. Bioinformatics (BIF) center at NIT Rourkela was established in 2007 as part of an initiative taken by the Department of Biotechnology (DBT), Govt. of India. Its mission is to strengthen the infrastructure for supporting complex and computationally intensive problems in genomics and proteomics, training of individuals to develop competence in identification of useful genes and develop algorithms, tools for data mining related to human, plant, microbial genomes.

LABORATORY FACILITIES

PCR machine
UV-Visible spectrophotometer
Multiscan GO.
Refrigerated centrifuges.
Gel Electrophoresis systems.
Western blot apparatus.
Deep freezers.
Orbital shaker incubator.
Mechanical tester.
Inverted microscope.
Environmental SEM,
Confocal microscope
FACS

ABOUT THE TRAINING PROGRAMME

The training program will contain a series of lectures followed by hands-on-training on gene analysis, gene cloning, construction of expression vectors, transformation, analysis of gene expression and protein. Hands on training will be provided on isolation of genes, RNA and proteins, primer designing, PCR, RT-PCR, restriction digestion and ligation in plasmid vector, transformation, recombinant identification, electrophoresis and expression analysis, Western blotting, immunohistochemistry etc. Detailed hands-on-training will also be provided on bioinformatics analysis of genomic and proteomic sequences, MSA, phylogenic analysis, gene prediction, next generation sequencing and computer-aided drug designing.

CONTENTS

Module 1:

1. Isolation of genomic DNA, plasmid DNA, RNA and Proteins.
2. Primer designing, PCR, RT-PCR, Gel electrophoresis.
3. Design and construction of expression vector.
4. Restriction digestion and ligation.
5. Transformation and recombinant identification.
6. Expression of pharmaceutical proteins.
7. Gel purification and gene cleaning.
8. SDS-PAGE and Western Blotting.

Module 2:

9. Biological databases and Data Retrieval Systems.
10. Molecular mechanics.
11. Protein conformation and structural analysis.
12. Structure-based drug designing.
13. 2D & 3D QSAR.
14. Virtual screening generation and searching.
15. Pharmacophore modeling and identification.
16. Molecular phylogeny and MSA tools.
17. Homology modeling.

Training Programme on GENE ANALYSIS AND MANIPULATION FOR INDUSTRIAL EXPRESSION OF PROTEINS

(GMP-2017)

06th – 15th July 2017

Prof. Mukesh K. Gupta
(Convener)

Sponsored by

Department of Biotechnology,
Ministry of Science and Technology,
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National Institute of Technology
Rourkela, Odisha 769008
http://www.nitrkl.ac.in

PATRON

Prof. Animesh Biswas
(Director, NIT Rourkela)

ORGANIZING COMMITTEE

Prof. Mukesh K.Gupta, Convener,
Prof. Krishna Pramanik
Prof. Subhankar Paul
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VENUE:

The Training program will be conducted on 06th-15th July 2017 at Department of Biotechnology and Medical Engineering, NIT Rourkela Odisha. Rourkela is one of the well-developed steel townships on Howrah-Mumbai main line (via Nagpur) of South Eastern Railway. It is well connected by railway network to the rest of India. The NIT Campus is only 8 km from Rourkela Railway station

IMPORTANT D A T E S :

Last date for receiving filled applications: 15th June 2017.
Date of intimation of selected candidates through email: 21st June 2017

REGISTRATION FEES

Corporate Personnels	: Rs. 20000/-
Educational Institutions	:Rs. 15000/-
Research Scholars and Students	: Rs. 8000/-

*Accommodation will be provided on payment basis in the Institute Guest House, or Halls of Residence as per the availability.

TARGET PARTICIPANTS

Personnel from Biotechnology, Biomedical and Pharmaceutical and allied industries and research organizations, Faculties from various educational and research institutions, Research Scholars., Post graduate students

HOW TO APPLY:

Applications in the prescribed format and the registration fee in the form of a Demand Draft, drawn in favor of "**Continuing Education, NIT Rourkela**" Payable at Rourkela must reach the Convener on or before June 15th 2017. ***Seats are limited to 30**

Training Programme on
GENE ANALYSIS AND MANIPULATION FOR INDUSTRIAL EXPRESSION OF PROTEINS (GMP-2017)
06th- 15th July 2017

REGISTRATION FORM

Name of the Participant:

Designation:
(Student/Research Scholar/Faculty/Industry)

Institute:

Accommodation if required: YES / NO

Address for Correspondence:

***Enclose the letter of recommendation**

DD No.: ----------

Bank----------Date----------

Email:

Mobile:

Copies of this form and details of the training program can be downloaded from our website **http://www.nitrkl.ac.in**