About the Department

The mission of the Department of Biotechnology is to create a fusion of engineering and life sciences that promotes scientific discovery and development of new biochemical technologies, biomedical technologies and therapies through research and education. The Department was started in the year 2006 with an under-graduate programme in B.Tech (Biotechnology) with an intake of 60 students. The Department offers Ph.D. programme. 16 research scholars are currently working for their Ph.D.

About the Institute and Warangal

National institute of Technology Warangal (NITW) formerly known as Regional Engineering College, Warangal (RECW) is the first among the 20 REC's setup as joint venture of the Government of India and State Government. Over the years, the college has established itself as a premier institution imparting technical education of high standards, leading to the B. Tech. degrees in various branches of engineering, M. Tech. and Ph.D programs in different specializations. With a view to give further impetus to the technical education, the Central Government upgraded the REC to NIT, and conferred the Deemed to be University status.

Warangal is known for its rich historical and cultural heritage. It is situated at a distance of 140 km from Hyderabad. Warangal is well connected by rail and road. The campus is 2 km away from Kazipet railway junction and 12 km away from Warangal railway station. Participants are advised to alight at Kazipet or Warangal depending upon the train of travel.

Travel and Accomodation

The expenses towards travel and accommodation shall be borne by the participants. Accommodation can be arranged on payment basis in the hotels near by NITW. A limited number of participants can be accommodated in the institute visitors’ block which can be allotted on first-cum-first served basis, on payment basis.

Contact Information

Dr. R.Satish Babu 09440607238
Email: rsatishbabur@gmail.com satishbabu@nitw.ac.in
Coordinator, MSO-2015
Department of Biotechnology
National Institute of Technology
Warangal-506 004.T.S. India.

Category | Without Accommodation | With Accommodation
--- | --- | ---
Faculty | Rs. 3,500/ | Rs. 5,000/ |
Research Scholars/M.Tech/ MSc | Rs. 2,000/ | Rs. 2,500/ |
Industry and R&D Organizations | Rs. 7,000/ | Rs. 10,000/ |

National Workshop

On

Modeling, Simulation and Optimization of Bioprocesses

Using

MATLAB, DESIGN EXPERT AND BERKELEY MADONNA SOFTWARES

02nd to 06th November- 2015

Sponsored by DBT

Coordinator

Dr. R. Satish Babu

Organized by

Department of Biotechnology
National Institute of Technology
Warangal-506 004. T.S. India.
INTRODUCTION

Modelling is often unfamiliar to biologists and chemists, who nevertheless need modelling techniques in their work. The general field of biochemical reaction engineering is one that requires a very close interdisciplinary interaction between applied microbiologists, biochemists, biochemical engineers. The purpose of this workshop is to provide the mathematical tools (i.e MATLAB) necessary for the quantitative analysis of biological kinetics and other biological process phenomena. The engineer and the biologist are freed from the difficulties of mathematical solution and can tackle complex problems that were impossible before. Mass balances, when combined with kinetic rate equations, to form simple mathematical models, can be used with very great effect as a means of planning, conducting and analyzing experiments. Models are especially important as a means of obtaining a better understanding of process phenomena. Models, when solved interactively by computer simulation, become much more understandable to non-engineers. The Berkeley Madonna simulation language will be used in this workshop. In this way it is possible to immediately determine the influence of changing various operating parameters on the bioreactor performance - a real learning experience. The simulation examples serve to enforce the learning process in a very effective manner and also provide hands-on confidence in the use of a simulation language. The participants can program their own examples, by formulating new mass balance equations or by modifying an existing example to a new set of circumstances. Other useful topics include data fitting (using MATLAB) and optimization (using Design Expert) also will be discussed in the workshop.

OBJECTIVES OF THE COURSE

- To train academicians, research scholars and PG Students on computational tools to solve Engineering Problems
- To provide hands on training

COURSE CONTENT

- Development of Mathematical Models
- Simulation of Mathematical Models
- Design of Experiments
- Development of Statistical Models
- Development of Neural Network Models
- Optimization Methods
- Curve fitting methodologies
- Model Validation Methods
- Solving problems using Matlab, Design Expert and Berkeley Madonna Software’s

HIGHLIGHTS OF THE COURSE

- Lectures by faculty of NIT Warangal and IIT’s
- Intensive laboratory sessions using Matlab, Design Expert and Berkeley Madonna softwares

ELIGIBILITY, SELECTION & DATES

This course is open to all AICTE approved engineering college teachers, Research Scholars, PG students working in any Science / Engineering discipline and people working in Industry/R&D Organization. The number of participants is limited to 40. Brochure and registration form can also be downloaded from our institute website: http://www.nitw.ac.in. Eligible candidates may send their filled in registration form along with a Demand Draft taken in favour of Director, NIT Warangal, payable at SBH, NIT Warangal Branch, should reach the Coordinator on or before 19-10-2015 (Both soft copy and hard copy).

SPONSORSHIP CERTIFICATE

Dr/Mr/Ms…………………. is an employee of our Institute/Organization and is hereby sponsored to participate in the Five-Day workshop at National Institute of Technology, Warangal.

Place & Date: Signature of the applicant

DECLARATION

The information provided above is true. If selected, I agree to abide by the rules and regulations of the course.

Place & Date: Signature of the applicant

Signature of Head of Institution (with seal)