

Training program in  
**Specialized Aspects of Biotechnology**  
Genomics and Proteomics

**MODULE 2 (28-29<sup>th</sup> January 2006)**  
Basics and Applications of Proteomics

**Objectives:**

The field of proteomics is rapidly expanding and is increasingly making an impact on today's world. Therefore it has become necessary for a spectrum of professionals and academicians to get a working knowledge of this field.

The course is designed for people with scientific background to understand or refresh the basics, gain clarity in the interrelated concepts leading to applications in the field of proteomics. In addition, the course endeavors to *create a foundation for an ongoing learning of this rapidly advancing field.*

After undergoing this course, the delegates will be able to develop an understanding of, its broad implications to different segments and apply the knowledge gained to their respective professions including but not limited to industrial and academic research, product development, marketing and product analysis.

*The advanced course constitutes a series of four modules which include: genomics, proteomics, practical genetic engineering and wet lab hand-on training. The longer duration advanced course is meant to give an in-depth understanding of this field. The first module of an advanced course was on genomics which was a great success.*

**Who can benefit from this course?**

The course will be useful for people involved in or contemplating participation in proteomics related fields in the following capacities:

- Managerial and supervisory level staff from industry, and research organizations.
- Technical staff from research, analytical and production functions.
- Postgraduate/undergraduate teachers from colleges and institutions.
- Supervisory, analytical and technical staff from Hospitals / laboratories.
- Students (doctorate and masters, and bachelors) from reputed institutions

**Prerequisite: Doctorate or Masters in science field;**

Bachelors would also be considered on the basis of experience and /or strong recommendation from organizational/institutional authority.

**Faculty:**

Internationally trained and experienced at senior positions in world-renowned research and academic institutions and corporate-world.

## **Course Description:**

This course is divided into two segments. The first one seeks to impart *basic concepts* of proteomics. The second segment concentrates on its *applications*. *In the course of training*, the state-of-the art *techniques* and very recent applications will also be discussed.

## **Proteomics: Basics, Tools and Applications**

### **Basics & Tools**

#### **Proteins and Proteomes: Structure, modifications & functions**

- 1. Protein isolation: Expression purification, and separation techniques**
- 2. Protein analysis 1: 2D gel electrophoresis & Mass spectrometry**
- 3. Protein analysis 2: NMR**
- 4. Bioinformatics tools: X-ray crystallography Structure prediction, comparison of structures, discovery of structural motifs, protein modeling, reengineering binding properties and increased in vivo efficacy of proteins and peptides**

### **Applications**

- 5. Agriculture: Identifying protein-protein interactions & protein complexes, mapping protein modifications. Protein expression, profiling, biomarker development.**
- 6. Biopharmaceuticals: Expression, Isolation, purification, validation**
- 7. Medicine: proteomics-derived drug discovery, delivery and safety.**
- 8. Diagnostics: protein expression profiling, biomarker development, micro -arrays**

Write up on the topics covered including major references for further study will be provided

**Duration**                      **2days (28-29 January 2006)**

### **Course Fees:**

Delegates from corporate world	Rs.4000/- delegate
Faculty or technical personnel from research	
Institutions and hospitals	Rs.2250/- delegate
Students	Rs.1000/- delegate

- Course fees will include course material, lunches, tea/coffee, and snacks.
- The number of participants will be limited in order to maintain the effectiveness of the training program.
- In case of excess applicants, the selection of the delegates will be at the sole discretion of the organizers. The excess applicants will be considered for the next edition of the course.
- The registration fees for those who cannot be accommodated will be refunded.

### **Venue**

Food Engineering and Technology Department,  
Institute of Chemical Technology (ICT, formerly UDCT),  
University of Mumbai,  
Nathalal Parikh Marg, Matunga, Mumbai 400019

### **Advisory Committee**

**Dr. Arizumi K.**, Professor, University of Texas Southwestern Medical Centre (UTSWMC), Dallas, TX., USA.

**Dr. Apte S.K.**, Head, Molecular Biology Department, BARC, Mumbai.

**Dr. Bhatia, C.R.**, Former Secretary, Department of Biotechnology, Govt. of India & Former Director, Biomedical Group, BARC, Mumbai.

**Dr. Firuza R. Parikh**, Director, Jaslok Hospital & Research Centre, Mumbai.

**Prof. Joshi J.B.**, Director, Institute of Chemical Technology (Formerly UDCT), University of Mumbai, Mumbai.

**Dr. Kulkarni P.R.**, Former Professor of Food Technology & Former Head, Food Engineering & Technology Division, Institute of Chemical Technology (Formerly UDCT), University of Mumbai, Mumbai.

**Dr. Mahajan S.K.**, Chair, Gharda Chemicals, Institute of Science, Mumbai & Former Head, Molecular Biology & Agriculture, BARC, Mumbai.

**Dr. Pradhan D.S.**, Former Associate Director, Biomedical Group & Former Head, Biochemistry Division, BARC, Mumbai.

#### **Delegate Registration Fees:**

Corporate participants: Rs.4, 000/- delegate

Academic participants: Rs.2, 250/- delegate

Technical persons from hospitals

And government research institutions: Rs.2, 250/- delegate

Student: Rs.1, 000/- delegate

Please Fax or Email to

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## Registration Form

I / We wish to register for the Training Program in specialized Aspects of Biotechnology Module-I

1. Name \_\_\_\_\_  
(Surname) (First Name) (Middle Name)  
Organization \_\_\_\_\_ Designation \_\_\_\_\_  
Basic Qualification and Subject \_\_\_\_\_  
Area of Professional Expertise \_\_\_\_\_

2. Name \_\_\_\_\_  
(Surname) (First Name) (Middle Name)  
Organization \_\_\_\_\_ Designation \_\_\_\_\_  
Basic Qualification and Subject \_\_\_\_\_  
Area of Professional Expertise \_\_\_\_\_

I / We are enclosing a Cheque/DD No. \_\_\_\_\_, dated \_\_\_\_\_ for Rs. \_\_\_\_\_  
Drawn on \_\_\_\_\_ Bank.

The Cheque / DD should be in the name of "TRAINING PROGRAM IN SPECIALIZED ASPECTS OF BIOTECHNOLOGY"  
For outstation cheques bank charges for transfer shall be added.

Organization \_\_\_\_\_

Mailing Address \_\_\_\_\_  
\_\_\_\_\_

Phone: Office \_\_\_\_\_ Residence \_\_\_\_\_

Email \_\_\_\_\_ URL \_\_\_\_\_ Fax \_\_\_\_\_

(Photocopies of the form will be accepted)

