BIOTECHNOLOGY & BIOSCIENCES

BIOREACTORS

PROF. G. K. SURAISHKUMAR
Department of Biotechnology
IIT Madras

TYPE OF COURSE : Rerun | Core | UG
INTENDED AUDIENCE : Biological Eng., Biotechnology, Biochemical Eng., Chemical Eng., BE (other experienced students such as ME/MS/PhD can also register to get a unique viewpoint)
PRE-REQUISITES : Ability to appreciate simple mathematical analysis

COURSE DURATION : 4 weeks (28 Jan'19 - 22 Feb'19)
EXAM DATE : 31 Mar 2019

INDUSTRIES APPLICABLE TO : All biotech and pharma industries (Biocon, Sanofi-Pasteur, Dr. Reddys, …)

COURSE OUTLINE :

Bioprocesses are used by any biotechnology/pharma industry to produce biological products that are widely used. This course, Bioreactors, will consider the heart of any bioprocess. It will present all aspects that are relevant for an appreciation of all relevant aspects of bioreactors. This course is expected to be of interest to students who want to learn about bioreactors, teachers who want to better understand the basis of their material, as well as industry personnel who are looking to better understand the principles and apply them to creatively solve their existing challenges.

ABOUT INSTRUCTOR :

Prof. G. K. Suraishkumar is a Professor in the Department of Biotechnology, Indian Institute of Technology Madras (IITM). He has been at IITM as a Professor since May 2004, and was earlier a faculty member in the Department of Chemical Engineering and centre for Biotechnology at the Indian Institute of Technology Bombay (IITB) from April 1993 until mid-May 2004. He earned his Ph.D. from Drexel University, Philadelphia, USA in 1993, and his B.Tech. in Chemical Engineering from IITM in 1986. He also did his Masters work at the University of Cincinnati, USA, between 1986 and 1988.

COURSE PLAN :

Week 01 : Introduction | Two important outcomes of a bioprocess: biomass (cells) and bio-products.
Week 02 : Common bioreactor operation modes.
Week 03 : Factors that affect bioreactor performance.
Week 04 : The cell-view of a bioreactor.