



INDIAN INSTITUTE OF SCIENCE
BANGALORE

INSTITUTE COLLOQUIUM

(Division of Mechanical Sciences)



Modelling for Industrial Biotechnology

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Abstract:

The application of biotechnology to industrial processes is based on the ability of living cells to carry out complex transformations that convert sugars into chemicals. These processes range from the production of bulk chemicals in yeasts and bacteria to the synthesis of therapeutic proteins in mammalian cell lines. One of the tools in the continuous search for improved performance of such production systems is the development and application of mathematical models.

In this talk, we present our research efforts to use mathematical models to understand, predict, and optimize the properties and behaviour of cells as well the production systems used for their large-scale cultivation. Several examples with emphasis on *Pichia pastoris* fermentation will be presented. A new approach to addressing long standing yield-productivity dilemma in improving performance of industrial bioprocesses is discussed.

Date : Monday, April 17, 2017
Venue : Faculty Hall, Main Building
Time : 4-00 p.m.

Professor Anurag Kumar, Director
will preside