



**INDIAN INSTITUTE OF TECHNOLOGY DELHI
DEPARTMENT OF BIOCHEMICAL ENGINEERING &
BIOTECHNOLOGY**

2018-19 Seminar Series

Tuesday, 5th February, 2019



**Prof. Indranil Biswas
University of Kansas Medical Center**

Title: Regulated Proteolysis in Bacteria: Streptococci Do it Differently

Streptococci are a diverse group of bacteria that belongs to the Firmicutes family and are commonly known as lactic acid bacteria (LAB), due to production of lactic acid during growth. Streptococci are an important part of the normal microbial flora of animals and humans (known as commensals). However, a few streptococci are considered serious pathogens and cause diseases that range from subacute and acute to even invasive. Likewise, several streptococci are important in the dairy and food industries and as probiotics organisms. Regulated proteolysis is an important biological process that maintains protein homeostasis in bacteria. Bacteria employ AAA+ proteases coupled with a protease component to power degradation of misfolded and native regulatory proteins. This process is intricately linked to protein quality control and modulates several biological processes. In streptococci, regulated proteolysis is vital to a variety of functions including virulence factor expression, competence development, bacteriocin production, biofilm formation, and stress responses. Regulated proteolysis is well studied in two model bacteria: *Escherichia coli* and *Bacillus subtilis*. However, our current knowledge about regulated proteolysis in other bacteria is very limited. This presentation will focus on our current understanding of regulated proteolysis in *Streptococcus mutans*, a dental pathogen. The presentation will highlight several new findings that are unique to streptococci and emphasize that “one theory does not fit all.”

All are welcome

Seminar will be held in DBEB Seminar room at **Block I, Room 223** at **4 pm**

For additional information, contact Seminar coordinator Dr. Preeti Srivastava at preeti@dbeb.iitd.ac.in or Dr. D. Sundar at sundar@dbeb.iitd.ac.in